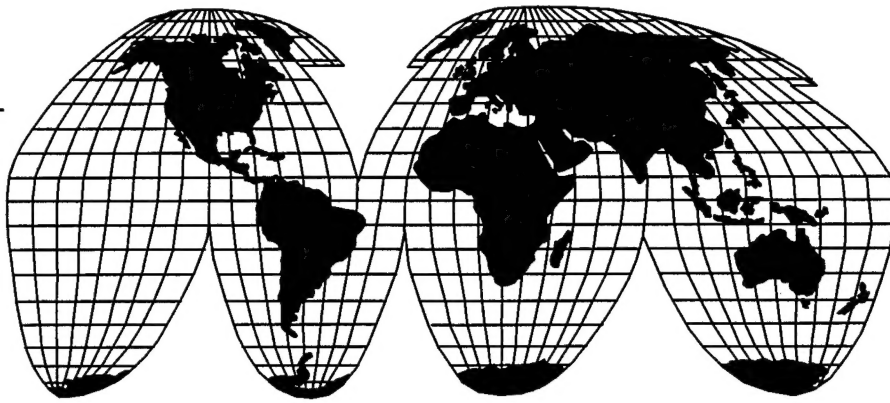


/REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188		
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1. REPORT DATE (DD-MM-YYYY) 30-07-1997		2. REPORT TYPE		3. DATES COVERED (From - To) 29-30 July 1997	
4. TITLE AND SUBTITLE Countering the Proliferation and Use of Weapons of Mass Destruction				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S): Sponsored by : HQ USAF/XONP (Nuclear & Counterproliferation Division) & HQ USAFA/DFES (USAF Institute for National Security Studies).				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) HQ USAFA/DFES USAF INSS 2354 Fairchild Dr., Ste 5L27 USAF Academy, CO 80840				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) HQ USAFA/DFES USAF INSS 2354 Fairchild Dr., Ste 5L27 USAF Academy, CO 80840				10. SPONSOR/MONITOR'S ACRONYM(S) HQ USAFA/DFES, HQ USAF/XONP	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT A Approved for public release; distribution is unlimited.					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT: The USAF Institute for National Security Studies, in cooperation with HQ USAF Nuclear and Counterproliferation Directorate, sponsored it's 5 th annual Tropical Conference, entitled Countering the Proliferation and Use of Weapons of Mass Destruction held on 29-30 July 1997 at the National Defense University. The purpose of this conference was to examine emerging asymmetric strategies and capabilities made Counterproliferation increasingly more difficult for the United States, Major Gen. Neary said: This, the United States Air Force, under Gen. Ronald Fogleman's guidance, adopted a new structure to counter the proliferation of WMD.					
15. SUBJECT TERMS USAFA, Proliferation, WMD, Counterproliferation					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UNCLASSIFIED UNLIMITED	18. NUMBER OF PAGES 8 sections	19a. NAME OF RESPONSIBLE PERSON DR. JAMES M. SMITH
a. REPORT UNCLASSIFIED	b. ABSTRACT UNCLASSIFIED	c. THIS PAGE UNCLASSIFIED			19b. TELEPHONE NUMBER (include area code) 719-333-2717



Final Report

“Countering the Proliferation and Use of Weapons of Mass Destruction”

**National Defense University
Washington, D.C.**

29-30 July, 1997

**Sponsored By
USAF Institute for National Security Studies
United States Air Force Academy
and
Headquarters, United States Air Force
Nuclear & Counterproliferation Directorate,
Policy Division
(AF/XONP)**

**Science Applications International Corporation
1710 Goodridge Drive
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USAF Institute for National Security Studies
“Countering the Proliferation and Use of Weapons of Mass Destruction”
29-30 July 1997

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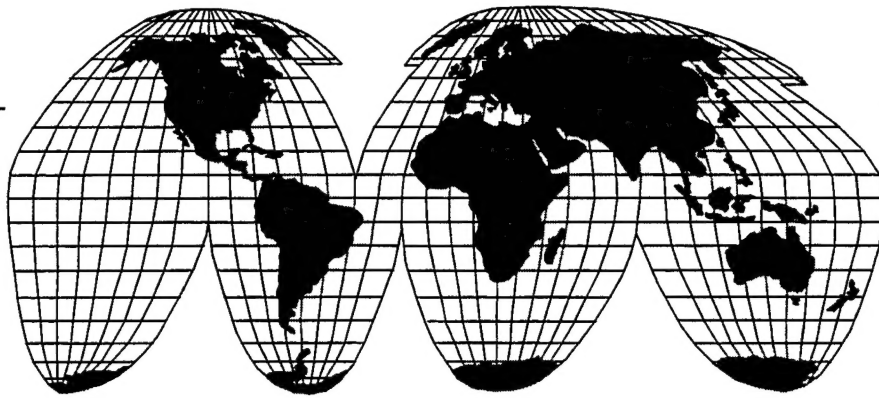
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Executive Summary

Executive Summary

Opening Remarks

The 5th Annual Topical Conference on "Countering the Proliferation and Use of Weapons of Mass Destruction" was held on 29-30 July 1997 at the National Defense University. Maj Gen Thomas H. Neary, Director of the USAF Nuclear & Counterproliferation Directorate, welcomed participants to the conference and explained that the issues addressed by this conference were critical and needed to be examined. Emerging asymmetric strategies and capabilities made counterproliferation increasingly more difficult for the United States, Maj Gen Neary said. Thus, the United States Air Force, under Gen Ronald Fogleman's guidance, adopted a new structure to counter the proliferation of WMD.

First, the U.S. Air Force will remain actively engaged in reducing the WMD threats that challenged the safety and security of the United States and its allies, Maj Gen Neary explained. Second, the U.S. Air Force will oversee the stewardship of the U.S. nuclear stockpile. Third, the U.S. Air Force will work with the Major Commands (MAJCOMs) to shape the Service's future contributions to counterproliferation.

Background

The Conference offered an opportunity for military and academic scholars to present a series of papers that is scheduled to be published as a collective volume later this year. Four separate panels were held in which authors presented their papers for review by discussant panel members. The authors then had an opportunity to respond to the reviews. Open discussions comprised the remainder of the panels.

Panel I was facilitated by Lt Col Peter Hays, INSS. The panel was comprised of Mr. Robert Irvine, OASD(ISP); Dr. Brad Roberts, IDA; and Dr. Peter Lavoy, Naval Post Graduate School.

Mr. Irvine presented Dr. Mitchel Wallerstein's, OSD(ISP), paper on "The Origins and Development of the Defense Counterproliferation Initiative." The paper traced the genesis of the Counterproliferation Initiative (CPI) from the end of the Persian Gulf War to the present. The chapter also described the functions of key committees that were established to review proliferation and counterproliferation issues.

The chapter on "Denial" was presented by Dr. Roberts. He explained that the issue of denial was closely linked to issues in arms control. Dr. Roberts then outlined a series of strategies that prevented countries from acquiring weapons of mass destruction (WMD). He also addressed the issue of calibrating instruments of denial. Dr. Roberts

concluded his presentation by commenting that it was important to study how the set of instruments were being applied by the US government in accomplishing the mission of denial.

Dr. Lavoy presented the final panel paper on "Reassurance and Dissuasion" that was authored by Ambassador Ronald Lehman, Lawrence Livermore National Laboratory. The chapter focused on five types of influence strategies to dissuade would-be proliferants from acquiring weapons of mass destruction. They included security dialogues, arms control, confidence and security building measures, security assistance and alliance, and public diplomacy. Dr. Lavoy cautioned that none of these five strategies were intended to have a direct impact on the WMD capabilities of a proliferant. Instead, emphasis was placed on affecting an actor's understanding and preferences regarding the acquisition and/or development of weapons of mass destruction.

Mr. Henry Sokolski, Nonproliferation Policy Education Center, offered the review of Dr. Wallerstein's chapter. He made three suggestions for improving the analysis. First, Mr. Sokolski disagreed with Dr. Wallerstein's premise that counterproliferation initiatives began after the Persian Gulf War. He cited the establishment of the Directorate for Proliferation Countermeasures in 1990 as an example. Second, the chapter would benefit from an examination of export controls in the CPI. Third, Mr. Sokolski recommended a discussion of preemption in the general analysis since it was an issue that generated much controversy.

Dr. Janne Nolan, The Brookings Institution, presented the next review of the chapter on "Denial." She began by advising Dr. Roberts to note the distinction between arms control and denial strategies. Dr. Nolan explained that denial strategies needed to be defined as a set of instruments that are coercive in nature. Dr. Nolan added that the spectrum of denial strategies exhibited different and distinct policy implications. She recommended that the chapter incorporate a brief examination of these policy implications. Finally, Dr. Nolan suggested that Dr. Roberts briefly discuss the US (domestic) process for using instruments of denial since it was a subject area that was rarely addressed.

The chapter on "Reassurance and Dissuasion" was reviewed by Mr. Leonard Spector, Carnegie Endowment for International Peace. He stated that Ambassador Lehman neglected several key areas in his analysis on reassurance and dissuasion, including technology denial and export controls; regime building and reinforcement; security guarantees; targeted diplomacy; regional dispute settlement; the Cooperative Threat Reduction (CTR) Program; and counterproliferation, among others. Mr. Spector believed that each of these critical areas required closer examination and would augment Ambassador Lehman's chapter greatly.

Panel II was facilitated by Maj Alan Van Tassel, BMDO. The panel was comprised of Gen (Ret) James P. McCarthy, US Air Force Academy; Dr. David A. Kay, SAIC; Dr. Lewis Dunn, SAIC and Mr. Paul Bernstein, SAIC.

Gen McCarthy's paper on "Actions to Reverse Proliferation: Voluntary Reversal" focused on the former Soviet Union's Comprehensive Threat Reduction Program. Gen McCarthy presented an illuminating overview of the legislative limitations that were placed on the CTR Program and the effects that the program had on eliminating the nuclear arsenal of the Ukraine, Kazakhstan, and Belarus. Furthermore, Gen McCarthy examined the role of coercion in halting the advancement of the North Korean nuclear program.

The second paper on "Actions to Reverse Proliferation: Involuntary Reversal" was presented by Dr. Kay. Dr. Kay discussed the weapons of mass destruction program of Iraq in the post-Persian Gulf War environment. He outlined the UN Special Commission (UNSCOM) inspection missions of Iraq and the difficulty of ascertaining Iraq's WMD capabilities.

Dr. Dunn and Mr. Bernstein presented the next paper on "Deterrence." Dr. Dunn explained that deterrence served as the second line of defense since prevention was viewed as the critical element in US defense against weapons of mass destruction. However, deterrence remained essential in combating the threat of WMD, particularly against unpredictable actors and in perilous environments.

Dr. Matthew McKinzie, Natural Resources Defense Council, offered the critique of Gen McCarthy's work on voluntary reversals. He praised Gen McCarthy's analysis on the legislative limitations of the CTR Program of the former Soviet Union. However, he expressed concerns regarding Gen McCarthy's examination of the coercion of North Korea's nuclear program. Dr. McKinzie explained that countries cease the advancement of their nuclear programs for a variety of reasons. He recommended that Gen McCarthy reviewed the range of plausible reasons in completing his analysis.

Dr. Kathleen Bailey, Lawrence Livermore National Laboratory, reviewed Dr. Kay's paper on involuntary reversal. She offered three suggestions for improving the chapter. First, Dr. Bailey recommended the creation of a chart that succinctly summarizes weapons inspections and compliance monitoring. Second, she recommended expanding the section on coercion of motivations. Third, Dr. Bailey recommended an examination of involuntary reversal of motivations.

The final panel critique of Dr. Dunn's and Mr. Bernstein's paper was presented by Dr. Victor Utgoff, IDA. Dr. Utgoff complimented the authors' examination of deterrence, but made several recommendations to elucidate the chapter further. First, Dr. Utgoff asked the authors to clarify the costs to the United States when regional actors proliferate. Second, he challenged the authors' recommendation for a US policy of ambiguity. Third, he advised an examination of situations where deterrence might not serve as a viable defense option. Fourth, Dr. Utgoff recommended a review of ally insistence for preemptive retaliatory strikes. Finally, he challenged the authors' argument for deposing adversarial leaders. Dr. Utgoff explained that adversarial leaders, such as

Saddam Hussein, have typically exhibited long survival rates. In order to ensure that the threat was credible, the leaders would have to feel vulnerable and susceptible to overthrow.

Panel III was facilitated by Lt Col James Player, AF/XONP. The panel was comprised of Ambassador Robert Joseph and Dr. John Reichart, NDU; Ambassador Henry Cooper, High Frontier; Dr. Robert Kadlec, OSD(ISP) and Col Randall Larsen, Andrews AFB.

Ambassador Joseph and Dr. Reichart presented their paper on "NBC Military Planning: Lessons Learned from Analysis and Wargaming." The authors focused on the results of their wargame on strategic weapons. They explained that a thorough understanding of NBC use required several layers of in-depth analysis. The first layer examined *who* the adversaries were and *why* they might employ weapons of mass destruction. The second layer examined *who* the adversaries were and *when* they might actually use WMD. The third layer examined *what* was to be used and *where* they might be used. The results of this multi-layer analysis answered *how* WMD were to be used. The authors also outlined illustrative examples of adversarial WMD use, as well as presented adversarial (Red Team) planning tasks and themes.

Ambassador Cooper presented the next paper on "Active Defense." He explained that the inter-relationship between counterproliferation, arms control, and nonproliferation created a proper context for analyzing ballistic missiles defense (BMD). He added that missiles proliferation posed an increasing threat because of improvements in their ranges, accuracy, and payloads. Moreover, the threat of WMD use by adversaries warranted the development of a viable BMD system. Ambassador Cooper also outlined the constraints that the Anti-Ballistic Missile (ABM) Treaty posed on the development of a BMD system. The Treaty, in his view, served to make US defense more vulnerable and susceptible to attacks.

The next chapter on "Passive Defense" was presented by Dr. Kadlec and Col Larsen. The authors explained that passive defense encompassed three broadly defined areas of contamination avoidance, force protection, and decontamination. Dr. Kadlec then traced the historical evolution of passive defense beginning with the First World War where the German use of Chlorine Gas at Ypres, France in 1915 precipitated the creation of the Chemical Warfare Service in the United States. During World War II, the US Congress appropriated US\$60 million to develop nuclear and biological capabilities. Most recently, the United States adopted counterproliferation initiatives as core missions in its defense planning. The authors concluded their presentation by outlining the challenges that remained in countering proliferation of WMD.

The final chapter of the panel on "Counterforce" was not presented due to the absence of its author, Gen (Ret) Charles Horner.

Dr. Roger Molander, RAND, reviewed Ambassador Joseph's and Dr. Reichart's analysis on strategic weapons. He began his comments by praising the methodology and typology used by the authors in discussing the findings of their wargame. He added that the matrices which illustrated WMD use was extremely helpful and insightful. However, a number of critical elements were lacking in the wargame for which Dr. Molander offered three prescriptions. First, Dr. Molander recommended an in-depth analysis regarding the potential use of nuclear weapons, particularly in future wargames. Even though the authors thoroughly examined chemical and biological weapons use, they nevertheless neglected the key component of the WMD trio. Second, the authors should incorporate the threat of electromagnetic pulses (EMP) in their matrices. Third, nuclear weapons should be addressed separately from chemical and biological weapons (CBW) since the contexts for their use differed greatly from that of CBW.

The chapter on "Active Defense" was reviewed by Dr. Keith Payne, National Institute for Public Policy. Dr. Payne agreed with Ambassador Cooper's assessment that missiles proliferation posed an increasing threat to US defense. Moreover, he concurred with Ambassador Cooper's statement that a debate between deterrence and ballistic missile defense existed. However, Dr. Payne advised that greater attention should be afforded to this critical debate in the chapter. Finally, Dr. Payne suggested incorporating a section on Cold War misconceptions to diffuse the belief that the United States can minimize the probability of war simply through force structure adjustments.

The next review on Dr. Kadlec's and Col Larsen's chapter was presented by Dr. Barry Schneider, Air War College. Dr. Schneider praised the authors' focus on the historical evolution of passive defense. However, it would be interesting for the chapter to examine why the United States had not achieved success in preparing for chemical and biological weapons threats and attacks during and after the Cold War era. Dr. Schneider added that an examination of secrecy in discussing passive defense, as well as a narrative on the types of available passive defense would augment the analysis further. Finally, Dr. Schneider recommended a brief discussion on the chemical weapons decontamination (DECON) program and its inability to adequately cope with chemical attacks.

The final review on Gen Horner's paper was presented by Dr. Thomas Keaney, National War College. Dr. Keaney disagreed with Gen Horner's premise that counterforce began during the Gulf War. He recommended that the chapter begin its analysis with the bombing campaigns of World War II. Dr. Keaney also disagreed with Gen Horner's recommendation of using long-range aircraft as counterforce weapons. He explained that long-range aircraft were expensive to maintain and that the use of B-2s and inter-continental ballistic missiles (ICBMs) on conventional warheads would be extremely difficult.

Panel IV was facilitated by Maj Vincent Jodoin, INSS. The panel was comprised of Gen (Ret) Wayne Downing; Ms. Caryn Leslie, NAIC; and Lt Col Jeff Larsen, INSS.

Gen Downing's paper on "Measures to Counter Paramilitary, Covert, and Terrorist Threats" focused on the lessons gleaned from the terrorist bombing of the Khobar Towers Apartment Complex in Saudi Arabia. He outlined eight lessons that should be applied in order to avert future terrorist actions, including situational awareness, human intelligence, posturing against the most likely threats, active and passive measures, use of technology, tailored training and orientation, engagement of chain of command, and force protection. The coordinated efforts of these critical elements will prevent the deadly destruction of another Khobar Towers attack.

Ms. Leslie presented the next paper that she had co-authored with Maj Gen John Casciano, AF/XOI, on "Intelligence Challenges." She began by cautioning against the misuse of intelligence. Ms. Leslie explained that intelligence provided the foundation upon which policy should be made. It acted as a catalyst or impetus for policy changes, rather than as an instrument of policy. She then proceeded to outline the utility of intelligence in the post-Cold War environment. Ms. Leslie conceded that the intelligence community needed to reorient and adapt itself to the unpredictable challenges of the new strategic environment. This included focusing on the motivation of adversaries, identifying those states that are purchasing dual-use technologies, and assisting in the monitoring of international agreements compliance, among others.

Lt Col Larsen presented the final paper on "International Cooperation." The chapter that he co-authored with Col Guy Roberts, SOUTHCOM, focused on the role of the North Atlantic Treaty Organization (NATO) in countering proliferation of weapons of mass destruction. Lt Col Larsen explained that NATO counterproliferation involvement included, defusing proliferation incentives; enforcing international sanctions against proliferants; conducting offensive military actions against proliferants; and developing ballistic missile defenses. He concluded his remarks by comparing NATO and US counterproliferation initiatives.

Dr. Richard Falkenrath, Harvard University, offered the review of Gen Downing's analysis of the Khobar Towers bombing. He outlined four basic points to improve Gen Downing's chapter. First, the chapter should recognize that different strategies were required to counter varying threats. Second, Dr. Falkenrath recommended an assessment of specialized capabilities used in countering asymmetric and nuclear, biological and chemical (NBC) threats. Third, the chapter should focus on the likelihood of emerging threats and the possible consequences of these threats rather than on most-likely threats. Fourth, Dr. Falkenrath advocated for Department of Defense (DoD) initiatives that would develop concepts, technologies, and capabilities which could be applied to homeland defense.

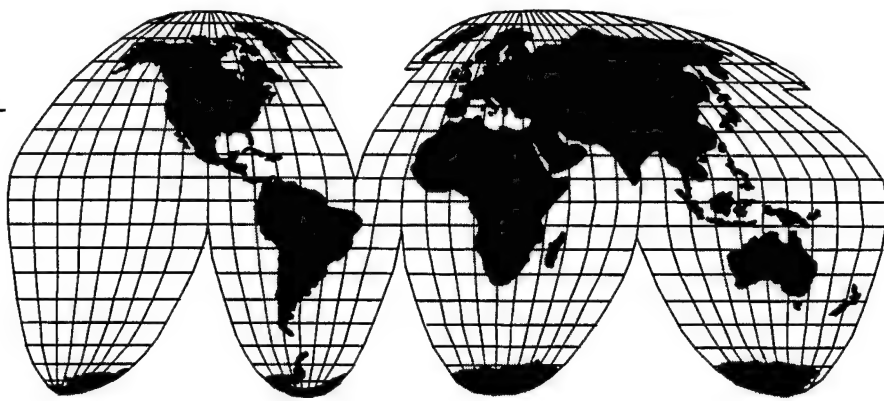
Mr. Doug MacEachin, Harvard University, presented the next review of Ms. Leslie's examination on the challenges to intelligence. He explained that the intelligence community must return to a basic analysis of threats, actors, and motivations rather than attempting to focus on a broad range of issues. One organization or community could not

and should not be responsible for all intelligence. A general and all-encompassing approach was doomed to failure.

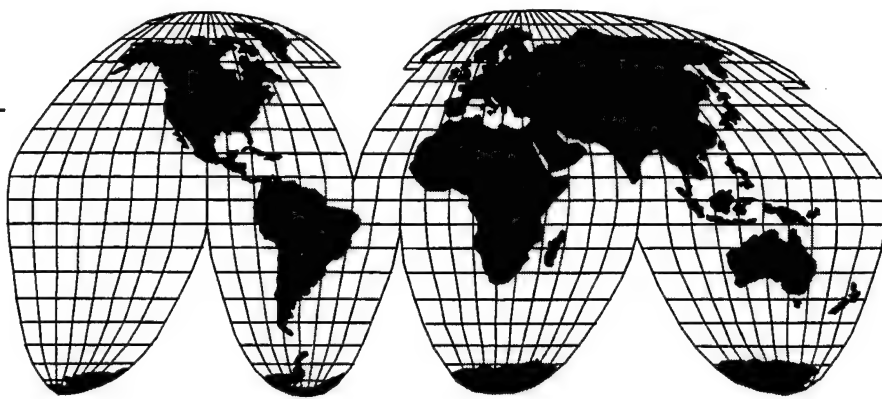
The final review was presented by Lt Gen (Ret) James Terry Scott, Harvard University. He assessed Lt Col Larsen's work on international cooperation. In general, Lt Gen Scott agreed with the authors' premise that NATO played an important role in countering the proliferation of WMD in Europe. However, he offered four recommendations to elucidate the chapter further. First, the authors should present a brief examination of major cooperative efforts in the pre-NATO period. Second, the chapter should capture the broader scope of cooperation with non-NATO allied countries. Third, some consideration should be given to unilateral and bilateral cooperative actions. Fourth, Lt Gen Scott suggested incorporating a review of cooperation between the intelligence community and local police forces in countering the emerging threat of "grand terrorism" into the chapter.

Closing Remarks

Maj Gen Neary complimented the overall success of the conference. He expressed his appreciation to AF/INSS, AF/XONP, distinguished guests, and the keynote speaker. In addition, Maj Gen Neary reemphasized the importance of counterproliferation issues and noted that the discussions resulting from the conference were invaluable to all involved in countering the proliferation and use of WMD.



Conference Proceedings



Panel I

Lieutenant Colonel Pete Hays, Chair
Mister Robert Irvine
Doctor Brad Roberts
Doctor Peter Lavoy
Mister Henry Sokolski
Doctor Janne Nolan
Mister Leonard Spector

PANEL 1

Chair: Lt Col Peter Hays

Participants: Mr. Robert Irvine, OSD/ISP, presenting for Dr. Mitchel B. Wallerstein, OSD/ISP
Dr. Brad Roberts, Institute for Defense Analyses
Dr. Peter Lavoy, Naval Postgraduate School, presenting for Amb. Ronald F. Lehman, Lawrence Livermore National Laboratory

Discussants: Mr. Henry Sokolski, Nonproliferation Policy Education Center
Dr. Janne Nolan, The Brookings Institution
Mr. Leonard Spector, Carnegie Endowment for International Peace

PANEL PRESENTATIONS:

"The Origins and Development of the Defense Counterproliferation Initiative," Mr. Robert Irvine for Dr. Mitchel B. Wallerstein

Mr. Irvine began his presentation by defining nonproliferation (NP) and counterproliferation (CP). He explained that Dr. Wallerstein's chapter reviews the history behind the CPI in four areas: motivations; concerns; early problems when the CPI was first introduced by Former Secretary of Defense Les Aspin; and the current status of the five core areas of the CPI.

In the chapter, Mr. Irvine explained that nonproliferation is defined as diplomatic and other efforts to prevent or reverse proliferation. Counterproliferation, on the other hand, is defined as DoD efforts to deal with proliferation after it occurs and includes active defenses, passive defenses, and counterforce operations.

According to Mr. Irvine, Dr. Wallerstein's chapter states that the objectives of CP have not changed since its inception in 1993: U.S. forces must be equipped and trained to prevail over an adversary who threatens to use nuclear, biological, or chemical (NBC) weapons. This level of preparedness is necessary, explained Mr. Irvine, to ensure that proliferant states will not succeed in their efforts to use NBC weapons as an asymmetrical counter to U.S. conventional force superiority. In essence, the United States can devalue and deny the use of NBC weapons by proliferants through the use of the CPI. If proliferant states recognize that the United States is prepared to deal with these weapons of mass destruction (WMD), the cost of using them will outweigh the benefits.

As regards motivations and concerns, Mr. Irvine explained that the lessons learned in Desert Storm served as the impetus for the report produced in the Spring of 1993, entitled "Countering Weapons of Mass Destruction in Contingency Operations." Secretary Aspin then gave the first public speech on the CPI to the National Science Foundation in December 1993, in which he discussed counterproliferation concerns.

These concerns included dangers of WMD proliferation and the importance of prevention and protection.

In reference to early problems and misconceptions with the CPI, Mr. Irvine described the controversy between the State Department and the DoD regarding the CPI's role. He described the State Department's concern that the DoD was trying to take over one of its missions, as well as the concern that CP would diminish nonproliferation efforts. In addition, Mr. Irvine described initial international concerns, particularly over the European perception of CP as a preemptive counterforce.

Dr. Wallerstein identified five core areas of the CPI as follows: Public and Policy Information; Military Planning; Intelligence Support; Acquisition; and Cooperation with International Partners. He discussed significant developments, both historical and current, in each of these areas. In the Public and Policy Information area, Mr. Irvine offered that a CP Council, chaired by the Deputy Secretary of Defense, was established within the DoD to monitor and coordinate CP efforts within all elements of the Department. In the area of Military Planning, Mr. Irvine explained that NBC training and exercises are being given increased attention by the Services and regional CINCs.

As regards Intelligence Support, Mr. Irvine asserted, there is a need for both strategic intelligence (analysis of national and foreign policy goals and doctrine of proliferant states) and tactical intelligence (such as wartime location of specific NBC targets and early identification and warning of NBC attacks). In reference to Acquisition, Mr. Irvine stated that there is a steadily increasing budget to address shortfalls noted in the Gulf War. As an example, Mr. Irvine cited the Chemical/Biological Defense Program, whose annual budget is currently around \$500 million for procurement of passive defense equipment.

Finally, in the area of Cooperation with International Partners, Mr. Irvine explained that the United States has worked with its allies to define CP, and he stated that force goals have been approved. Furthermore, Mr. Irvine offered that the United States is also engaged in bilateral CP dialogue with allies in the Middle East, Korea, and Japan.

Mr. Irvine noted that Dr. Wallerstein addressed the issue of deterrence in his chapter. Essentially, the chapter claims that nuclear weapons have a role in deterring WMD. However, Mr. Irvine suggested nuclear weapons cannot serve as a panacea for every situation, and added that conventional forces are necessary in some situations.

Next, Mr. Irvine reviewed six CPI themes addressed by Dr. Wallerstein's chapter. The first theme embraces the concept that proliferation is more than just a diplomatic problem; it is also a military threat. The second theme states that CP efforts must be integrated throughout DoD and should become an integral element of doctrine development training.

The third theme calls for specialized intelligence to assist both warfighters and policymakers to plan for and combat NBC threats, particularly by understanding the intentions of proliferators. The fourth theme encompasses the issue of technology, which Dr. Wallerstein believes offers few "silver bullets." However, according to Mr. Irvine, Dr. Wallerstein believes that technology can help address certain key vulnerabilities.

The fifth theme emphasizes that from a military perspective, CP planning and preparedness make it less attractive for proliferators to use WMD against the United States or its allies. Finally, the sixth theme claims that in the future, U.S.-led coalitions may only be as strong as the least-prepared member's CP defense readiness. In light of this, Mr. Irvine urged the United States to ensure its allies are prepared to deal with WMD proliferation threats.

In conclusion, Mr. Irvine explained that in the beginning, the concept of CP was a "hard sell" to policymakers and military planners. However, he suggested the recent QDR indicated that the initial skepticism of CP has since dissipated. Mr. Irvine noted, for the first time a DoD policy planning document states that defense planners must assume future warfare will involve CW or BW use. In light of this, the United States must adapt its operational concepts, training, and exercises to account for the threats posed by CW and BW, as well as encourage its allies to train and equip their forces for effective operations in a BW/CW environment.

"Denial," Dr. Brad Roberts

Dr. Roberts began his presentation by noting that a comprehensive set of tools is needed regarding denial strategies. As a result, his chapter covers a broad spectrum of issues including arms control, export controls, interdiction, and preemption. Dr. Roberts then gave an overview of his chapter including the current efforts to manage denial strategies.

Dr. Roberts suggested the definition and nature of proliferation has changed. In the past, the major proliferation concern was to prevent the next nuclear state from emerging. This period was marked by an emphasis on technology denial. Today, proliferation has a new form. Primary concerns are not focused on preventing the emergence of a nuclear state; rather, concerns are focused on nations in possession of: nuclear reactors or nuclear materials; chemical or biological weapons; and ballistic and cruise missiles. Dr. Roberts stated that 65 states have nuclear reactors.

According to Dr. Roberts, the state is no longer the dominant actor in the international economy. Capital, technology, and expertise have taken the limelight. As a result, there has been a reversal of Cold War understanding of proliferation, where it was seen as strictly a military issue, to a post-Cold War mentality, where proliferation is seen as both a military and civilian concern. In addition, Dr. Roberts noted that for the past 50 years, the United States concentrated its efforts on nuclear issues primarily, while today, it has broadened its focus to include incentives to prevent states from proliferating. Dr.

Roberts added, the United States is well aware of the ease of acquiring technology in today's marketplace, and the resulting ease of acquiring WMD almost overnight. In light of this, the United States hopes that incentives will help curtail proliferation.

Next, Dr. Roberts provided an overview of current efforts to manage denial strategies. The first effort falls under the umbrella of arms control. Dr. Roberts stated that nonproliferation regimes, and multilateral treaties such as the CWC, have helped to strengthen compliance regimes.

Second, in the area of export controls, Dr. Roberts mentioned the Australian Group, which was established to limit the spread of chemical weapons by controlling chemical precursors and CBW equipment, and the Wassenaar Arrangement of 1995 which promotes transparency in regard to transfers of conventional arms and dual-use goods. Dr. Roberts also noted the importance of other supplemental measures such as the Cooperative Threat Reduction (CTR) Act, and stated that since the Persian Gulf War, preemption has been regarded as a potentially useful tool, whereas, during the Cold War, it was not seriously considered.

According to Dr. Roberts, the issue is not what tools the United States needs to counter proliferation, but rather how the United States should use the tools it already has. For example, the Persian Gulf War reminded the United States that securing compliance is important. However, Dr. Roberts stated that U.S. efforts to strengthen compliance are currently inadequate and that Administration support is needed to achieve stronger multilateral regimes.

One of the counterproliferation tools discussed by Dr. Roberts was export controls. He conceded that the emergence of new export suppliers presents new challenges, particularly effective implementation of export controls. Dr. Roberts stated, the current Administration is too involved with promoting exports, and has set aside discussions of a trade regime. In addition, Dr. Roberts emphasized that the United States must address its allies and other nations as partners, not followers, when trying to gain support for nonproliferation and counterproliferation efforts.

Dr. Roberts discussed two other tools available to policymakers: arms control and export controls. According to Dr. Roberts, arms control is necessary for many reasons, including: to reduce the number of weapons states; to restrain military threat of residual arsenals; to legitimize punitive actions and technology controls; and to help manage international transitions. As for export controls, Dr. Roberts suggested they are needed for the following reasons: to channel trade to legitimate, peaceful activities and away from illegitimate ones; to create a level playing field for industry by establishing an agreed set of rules applied under transparent national decisions; and to insulate industry from the political and economic risks of trade in highly sensitive areas. Dr. Roberts stressed that despite the role arms control and export controls play in controlling proliferation, other tools are necessary to address proliferation concerns.

Finally, Dr. Roberts offered a connection between arms control and counterproliferation. He suggested CP creates a credible environment in which arms control measures become effective tools to counter non-compliant behavior. In concluding, Dr. Roberts emphasized that the Proliferation Threat and Response Document should clearly communicate the message that the proliferation threat is urgent and requires an elaborate response through the use of multiple tools.

“Reassurance and Dissuasion” Dr. Peter Lavoy for Amb. Ronald F. Lehman

Dr. Lavoy explained that Amb. Lehman’s chapter addresses the broad compendium of policy components that help the United States dissuade would-be proliferators from acquiring weapons of mass destruction (WMD). In addition, these same components serve to persuade existing proliferators that it is in their interest to ultimately abandon their WMD program(s).

Dr. Lavoy offered five influence strategies discussed in Amb. Lehman’s chapter: security dialogues; arms control; confidence and security building measures (CSBMs); security assistance and alliances; and public diplomacy. All five strategies, Dr. Lavoy reemphasized, are efforts to influence the motivations of would-be and existing proliferators of WMD. Dr. Lavoy noted that these strategies do not directly impact proliferators, but they can influence their preferences and make them understand why proliferation is a concern.

The first strategy, security dialogue, addresses the fundamental need to discuss the basic causes of proliferation. According to Dr. Lavoy, insecurity often prompts proliferation, making security dialogue critical. However, Dr. Lavoy noted that security dialogues can also be problematic. For instance, it is not always clear which actor(s) the United States should address in a given country. Regardless, Dr. Lavoy asserted that security regimes are useful because they re-establish and re-enforce a sense of security, thereby helping to keep nonproliferation regimes intact.

In regards to the second strategy, arms control, Dr. Lavoy cautioned that it could undermine nonproliferation objectives. He emphasized, the substance of arms control agreements and treaties needs to be scrutinized because the reduction of U.S. nuclear stockpiles affects U.S. deterrence, which could affect U.S. security guarantees to its Allies.

As for CSBMs as influence strategies, Dr. Lavoy offered that they are more symbolic than arms control strategies because of their psychological impact. CSBMs usually promote transparency, but transparency can undermine political-military security because they address the intent or capabilities of a country that might not want to share such information.

Next, Dr. Lavoy addressed Amb. Lehman’s fourth strategy: security assistance and alliances. Dr. Lavoy explained that U.S. security guarantees may be the most powerful

lever for nonproliferation and counterproliferation efforts. He noted that security guarantees have helped to reassure allies, such as Japan and South Korea, that the United States is concerned about dissuading countries from seeking WMD.

Finally, Dr. Lavoy addressed the fifth strategy: public diplomacy. According to Dr. Lavoy, the key challenge regarding public diplomacy lies in understanding how to deter potential aggressors without frightening those they threaten. He suggested the United States should declare its public diplomacy goals and encourage other nations to participate.

Dr. Lavoy summarized the major points of Amb. Lehman's chapter. First, he stressed that policy strategies are designed to reassure countries that non-WMD means are available to safeguard their security, as well as to dissuade proliferators from seeking or keeping WMD capabilities. Second, Dr. Lavoy asserted that security measures should be scrutinized more carefully. As an example, he suggested the impact of NATO expansion on nonproliferation efforts should be examined. Third, Dr. Lavoy addressed the issue of which dissuasion or reassurance strategies are appropriate for each proliferation case. He explained that the United States should understand the motivations behind a potential or existing proliferant. Specifically, the political-military implications and cultural aspects of a potential proliferant should be examined.

PANEL DISCUSSIONS:

Critique of "The Origins and Development of the Defense Counterproliferation Initiative," Mr Henry Sokolski

Mr. Sokolski stated, the historical roots of counterproliferation are different from those captured in Dr. Wallerstein's chapter. He explained that counterproliferation *did* exist before Desert Storm. For example, the Directorate for Proliferation Countermeasures was established in 1990 to oversee the development of effective countermeasures to neutralize proliferation threats. Mr. Sokolski cited a recent update of a paper, entitled *Nonproliferation: The Last 50 Years*, he presented at the American Political Science Association's Annual Meeting on August 30, 1995.

According to Mr. Sokolski, approximately 75% of the information is consistent throughout Dr. Wallerstein's chapter. However, it is his belief that Dr. Wallerstein should more closely examine recent changes in the Counterproliferation Initiative (CPI), such as the incorporation of export controls. Mr. Sokolski emphasized that the CPI has changed its focus from looking at all strategic weapons to weapons in general.

In addressing major chapter issues, Mr. Sokolski noted that discussions on pre-emption are missing and should be included in the final chapter. He suggested that the preoccupation with pre-emption has placed the CPI in contrast to previous administrations' positions. Furthermore, Mr. Sokolski offered that the controversy

surrounding pre-emption is centered around its treatment, as well as whether or not it should be addressed in planning guidance, and if so, how. He added that senior officials believe the CPI will set back civilian-military relations in dealing with WMD threats.

Next, Mr. Sokolski remarked that the tone of Dr. Wallerstein's chapter is reasonable, given that eliminating WMD threats is unattainable. He explained that countermeasures simply neutralize WMD threats, not eliminate them. In addition, Mr. Sokolski suggested the United States cannot easily prevail if attacked with NBC weapons because its ability to sustain innovation in a NBC environment is questionable. Mr. Sokolski suggested the chapter include a pre-history of non-apocalyptic threats as well as a discussion of export controls before and after CPI.

In response to these comments, Mr. Irvine explained that a discussion of U.S. counterproliferation threat and response and pre-emption would be considered classified; thereby, it was not addressed in the chapter. Mr. Irvine further explained that pre-emption is not a major element of counterproliferation. Nevertheless, he agreed the chapter should include more information on defensive counterproliferation issues. Finally, Mr. Irvine noted that the issue of counter-terrorism will be addressed in the Threat and Response document.

Critique of "Denial," Dr. Janne Nolan

Dr. Nolan praised Dr. Roberts' linkage of denial strategies to arms control. However, she noted an important distinction between arms control and denial strategies. As Dr. Roberts' chapter addresses all strategies to prevent countries from acquiring WMD, Dr. Nolan suggested that denial strategies be defined as a set of cohesive instruments, such as export controls.

Dr. Nolan explained that across the spectrum of instruments, from export controls to voluntary controls, each has distinct policy implications. In addition, she remarked that the effort to disrupt technology trade has become increasingly difficult, primarily resulting from the sheer volume of technology and materials available for trade. Dr. Nolan cited Russia and China as two examples of nations possessing enormous technology and materials capital.

According to Dr. Nolan, the chapter correctly captures the critical question of how instruments of denial can be calibrated. She suggested there will be more interest in the calibration issue once DoD becomes more involved. Furthermore, Dr. Nolan offered that the current re-focus from nuclear weapons to NBC weapons and missiles represents a clear shift in priorities and reflects the elevation of nonproliferation to the core of both intelligence and military planning.

Dr. Nolan concurred with Dr. Roberts' assessment that the study of how instruments of denial are applied by the United States as a world leader is critically important. Further, she suggested the internal U.S. process for using these instruments be

examined as well. Dr. Nolan explained, this internal process is somewhat of a disaster -- it is fractionated, dysfunctional, and political. She emphasized that the United States cannot continue with such a lumbering bureaucracy, particularly one that is typically antagonistic towards private industry.

Finally, Dr. Nolan emphasized that political authorities and military planners must work together and gain a clearer understanding of these instruments of denial, particularly their use. To properly track WMD technologies, Dr. Nolan strongly recommended a thorough integration of both political and military intelligence operations. Such integration would facilitate intelligence gathering on WMD technology transfers and their end-users. Dr. Nolan also suggested a re-allocation of resources toward human intelligence (HUMINT) efforts in order to strengthen intelligence on WMD technology demand and its associated end-users.

In response to Dr. Nolan's comments, Dr. Roberts offered that every instrument of denial has limited utility for dealing with WMD proliferation. In light of this, he suggested policy makers and military planners should not limit their counterproliferation efforts to interdiction alone. Dr. Roberts added that particular mixes of arms control and denial strategies should be considered for individual proliferation cases. Dr. Roberts asserted, as each instrument is limited, policy makers and military planners must understand that no one instrument should be relied upon in all proliferation cases, and recommended that future instances of proliferation be addressed by a more rigorous assessment of what instrument(s) to use and when.

Critique of "Reassurance and Dissuasion," Mr. Leonard Spector

Mr. Spector praised Amb. Lehman's chapter but offered seven counterproliferation areas requiring further attention. Mr. Spector added that each of these areas, or mechanisms, were essential to properly address WMD proliferation and presented a brief summary of each.

First, the chapter should give greater consideration to the mechanisms of technology denial and export controls. Mr. Spector explained that technology denial is an important element in countering WMD proliferation and noted its value in pushing U.S. policy objectives.

Second, some consideration should be given to regime building and reinforcement in addressing WMD proliferation. Mr. Spector asserted this is an important facet of arms control and should be incorporated into Amb. Lehman's chapter.

Third, security guarantees are an essential mechanism for reassuring countries and need further consideration, particularly earlier in the chapter. Mr. Spector cited defense treaties with Japan, South Korea, and the United States' relationship with Taiwan as examples of security guarantees that have had positive impacts.

Fourth, the chapter should discuss targeted diplomacy more thoroughly. Specifically, discussion should address the mechanisms through which targeted diplomacy is accomplished, such as diplomatic sanctions and incentives.

Fifth, although Amb. Lehman does discuss the concept of regional dispute settlement to address WMD demand, it is relatively insignificant as a counterproliferation tool. Therefore, it should be discussed later in the chapter.

Sixth, the Cooperative Threat Reduction program to prevent material and technology leakage from the former Soviet Union (FSU) should be addressed as part of counterproliferation.

Seventh, Mr. Spector explained that counterproliferation has many dimensions and should be examined accordingly. He suggested the chapter strike a balance between these various elements and incorporate the larger perspective of where counterproliferation takes place – the NBC environment. In addition, Mr. Spector noted that the chapter did not address the second revolution of military affairs. As the Iraqis acquire CW/BW, Mr. Spector argued they will gain an increasing ability to dissuade and blackmail the United States, thereby limiting the effectiveness of U.S. technological capabilities.

In response to these recommendations, Dr. Lavoy recognized the differences between counterproliferation and nonproliferation. He explained that counterproliferation supports the broader nonproliferation concept and consists of a cluster of activities that are difficult to define specifically. Dr. Lavoy argued that a major contribution to the chapter are the roles that counterproliferation can play in nonproliferation areas. In his view, counterproliferation can support a broader security dialogue.

DISCUSSIONS:

The first question posed to Mr. Irvine addressed the statement that nuclear weapons are not a panacea. Specifically, the conference attendee inquired as to whether that statement was a widely held policy or one supported by a certain area in the government. Mr. Irvine replied, the belief exists that U.S. military planners will rely on the threat of nuclear responses to deter CW/BW attacks. However, he emphasized Dr. Wallerstein's chapter did not address this view. Further, Mr. Irvine explained that although nuclear weapons can deter nuclear weapons, it is unclear whether they can deter CW or BW. Mr. Irvine added that the United States must improve the way it deals with overwhelming response; however, he did not think the U.S. should specify when it would use nuclear weapons.

The second question was addressed to Dr. Roberts, who was asked to elaborate on what the United States should be doing right now to prepare for or prevent the possibility of rapid proliferation as countries acquire latent capabilities. Dr. Roberts replied that in the past, nuclear weapons accumulation was a relatively slow process. CW and BW

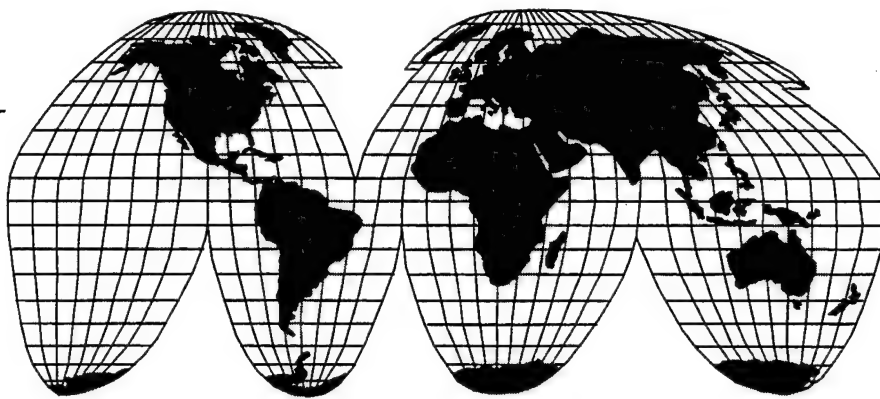
proliferation, on the other hand, is quicker due to the ease of acquiring the materials needed to produce these weapons. Dr. Roberts explained that more states have the ability to acquire WMD than ever before. In light of this, he suggested that the future could look like the past and continue in an ebb-and-flow fashion. Another future possibility is a rapid wild-fire of increased NBC capabilities throughout the world.

Regardless of what the future holds, Dr. Roberts cautioned that proliferation will undoubtedly be a problem in certain regions of the world and that the United States must be prepared to deal with the NBC threat.

Another conference attendee inquired how security alliances and guarantees in stemming proliferation could be applied to the WMD proliferation problem in the Middle East, especially if Israel does not become a party to the NPT. Dr. Lavoy responded that the potential for increased proliferation exists, but offered that the same potential already existed in the past. Dr. Lavoy explained that the United States must understand a nation's history and the measures that prevented proliferation in the first place, i.e. public diplomacy, regime building, or other measures. However, he cautioned that the international environment is different today. Assurances remain important but are increasingly difficult to implement. In addition, the threats to the United States and its allies have changed as well and must be redefined.

Dr. Roberts added that the nature of proliferation has changed as well. For example, it takes 15-20 years for a nation to become established in the nuclear arena, whereas today nations can successfully enter the BW arena in a matter of days. Thereby, threats can emerge very quickly. Mr. Spector added that security guarantees can play a critical role by holding countries at their current levels rather than allowing them to proliferate. These security guarantees can play a critical role in the Middle East.

Finally a participant asked if counterproliferation will play a role in the Russian discussions with NATO partners this year, and if so, what the U.S. and NATO objectives will be and what is expected in regard to Russia's interest in NATO. Mr. Irvine replied that the United States is approaching Russia in bilateral talks through NATO. However, the recent "16 plus 1" meeting, where NATO discussed proliferation issues and its progress to date, was not taken seriously by Russia. In fact, Russia did not even send an official representative from the Ministry of Defense to the meeting.



Panel II

Major Alan Van Tassel, Chair
General (Ret) James P. McCarthy
Doctor David A. Kay
Mister Paul I. Bernstein
Doctor Lewis A. Dunn
Doctor Matthew McKinzie
Doctor Kathleen Bailey
Doctor Victor Utgoff

PANEL 2

Chair: Maj Alan Van Tassel

Participants: Gen (Ret) James P. McCarthy, United States Air Force Academy
Dr. David A. Kay, Science Applications International Corporation (SAIC)
Dr. Lewis Dunn and Mr. Paul I. Bernstein, SAIC

Discussants: Dr. Matthew McKinzie, Natural Resources Defense Council (NRDC)
Dr. Kathleen Bailey, Lawrence Livermore National Laboratory
Dr. Victor Utgoff, Institute for Defense Analyses

PANEL PRESENTATIONS:

"Actions to Reverse Proliferation: Voluntary Reversal," Gen (Ret) James P. McCarthy

Gen McCarthy focused his presentation on the Comprehensive Threat Reduction (CTR) Program of the former Soviet Union. He explained that the CTR Program was the result of a six year effort to help the nuclear-holding states of the former Soviet Union with weapons control and dismantlement. The program began with then-President Mikhail Gorbachev's initiative to seek U.S. assistance with destruction of part of the existing Soviet strategic weapons stockpile. The United States Department of Defense agreed to the request, and named the preventive defense initiative the "Comprehensive Threat Reduction Program."

In the early 1990s, the disintegration of the Soviet Empire made control of nuclear weapons more difficult. The United States recognized that immediate assistance was required. Thus, former U.S. President George Bush met with President Gorbachev in July of 1991 to sign the Soviet Nuclear Threat Reduction Agreement that provided for a program limited to cooperation among the United States, the Soviet Union, its Republics, and any successor entities to: destroy nuclear weapons, chemical weapons, and other weapons; transport, store, disable and safeguard weapons in connection with their destruction; and establish verifiable safeguards against the proliferation of such weapons.

The following year, the United States Congress pledged \$1 billion under the Defense Authorization Bill to control and dismantle the estimated 50,000 weapons stockpile of the former Soviet Union. However, a number of legislative limitations were placed on the Soviet Republics including: making a substantial investment of its resources for dismantling or destroying weapons; forgoing any military modernization program that exceeds legitimate defense requirements; forgoing the replacement of destroyed weapons of mass destruction; forgoing any use of fissionable and other components of destroyed nuclear weapons in new nuclear weapons; facilitating U.S. verification of weapons destruction; complying with all relevant arms control agreements; and observing internationally recognized human rights, including the protection of

minorities. Congress announced that compliance with these stipulations would generate financial assistance from the United States.

\$1.877 billion was ultimately allocated to the CTR Program. However, implementation of the actual program had been slow and varied. Russia has complained that the scale of the program was insufficient. In almost all instances, U.S. rather than Russian organizations were the primary contractors. Furthermore, CTR deliveries reduced the market for the Russian military industry, and program assistance was aimed at undermining the high-tech capabilities of the Russian industry.

The CTR Program also generated American criticisms including, the United States was aiding Russia's high-tech military industry and helping to modernize the Russian armed forces, among others. Nevertheless, the CTR Program succeeded in facilitating the elimination of the Ukraine's, Belarus', and Kazakhstan's weapons stockpiles, as well as provided employment opportunities in peaceful civilian research for over 17,000 scientists and engineers through science and technology centers that were funded in part by the CTR Program.

The CTR Program of the former Soviet Union eventually formed the basis for the North Korean Agreement. In the Agreement, the United States and the DPRK pledged to achieve peace and security on a nuclear free Korean Peninsula and undertook four specific actions to resolve the nuclear issue including: cooperation on replacement of the DPRK's graphite-moderated reactors and related facilities with light-water reactor (LWR) power plants; move towards full normalization of political and economic relations; work together for peace and security on a nuclear-free Korean Peninsula; and work together to strengthen the international nuclear non-proliferation regime.

Gen McCarthy explained that the North Korean Agreement served not only as an example of voluntary participation, but also as a model of "coercion." Specifically, he argued that coercion could be interpreted as a broader policy for the CTR Program. In the instance of North Korea, coercion was used to persuade policy consensus, while behind-the-scenes negotiations were conducted by members of the Clinton Administration to resolve problematic issues. Gen McCarthy believed that issues and policies will replace innovative strategies such as the CTR Program in the future.

Gen McCarthy concluded his presentation by recommending two follow-on measures. First, the United States should generate international support for the CTR Program, particularly with regards to chemical and biological weapons. Second, the United States should examine the broader policy implications of chemical and biological weapons on the Korean Peninsula, if or when, a possible implosion occurs in the DPRK.

"Actions to Reverse Proliferation: Involuntary Reversal," Dr. David Kay

Dr. Kay began his presentation by explaining that there have been few occurrences of involuntary proliferation reversals throughout history. The first

experience had been in Germany between World Wars I and II. Germany was subjected to a series of intrusive inspections that resulted in the adverse effects of rapidly expanded military capabilities during the Second World War. In the instance of Iraq, Dr. Kay commented that inspectors still could not determine the scope of Iraq's weapons stockpile after six years of on-site inspections.

He explained that more than 600 inspections and monitoring missions have been conducted in Iraq since the Persian Gulf War. Over twenty full and final declarations have been made by Iraq and innumerable "stand-offs" have occurred. To date, approximately 500,000 liters of chemical weapons, 1.8 million liters of chemical agents, 48 operational missiles, and 22 biological and nuclear facilities have been destroyed or eliminated. Nevertheless, the only certainty that the United States maintained regarding Iraq's stockpile was that it had allocated \$8 to 10 billion toward its WMD program to date, and that more than twenty WMD sites continued to exist. Also, Saddam Hussein had initiated a crash program in 1990 to produce crude nuclear weapons by 1991, which United Nations Special Commission (UNSCOM) inspectors had deemed a failure.

With regards to Iraq's biological weapons program, very little factual documentation existed. Inspectors surmised that Iraq maintained 10,000 biological weapons, 8,500 concentrated liters of anthrax, and 25 missiles with pre-release authority should Baghdad be targeted or attacked. Moreover, after six years of inspections, the United States still did not know for certain the net worth of Iraq's procurement program, its concept of operations (CONOPs) for nuclear, biological, and chemical weapons use, and Iraq's understanding of deterrence.

Dr. Kay explained that in spite of the lack of understanding of Iraq's WMD program, the UNSCOM had nonetheless succeeded in gaining unlimited and unrestricted access to inspection equipment. Inspectors were not required to declare the types of equipment that they brought to Iraq for monitoring and compliance usage. Furthermore, inspectors were able to conduct unlimited aerial/overhead photography of Iraqi weapons facilities, as well as collect sensitive environmental samplings at various locations. Finally, national-developed information and intelligence were shared between Iraqi and UN inspectors.

However, Dr. Kay envisaged several problems that might arise in future inspections. First, Iraq's natural decay level makes continuation of inspections increasingly more difficult. Second, since Iraq remained the world's second largest supplier of oil, many U.S. allies were shifting to re-engagement with Iraq in order to secure a continuous oil supply.

Dr. Kay concluded his remarks by stating that he did not view the United States' involuntary reversal program in Iraq to be a success, because inspectors were still uncertain about the country's WMD program. Moreover, many of Iraq's chemical weapons programs have been reconstituted along with a continuation of its biological weapons program. Iraq's nuclear program also remained, albeit under the guise of

peaceful initiatives. Finally, political support for western sanctions was waning because of the importance of Iraqi oil.

"Deterrence," Dr. Lewis Dunn and Mr. Paul Bernstein

Dr. Dunn began his presentation by explaining that deterrence remained the second line of defense; the first was prevention. He then proceeded to describe the central thrust of his and Mr. Bernstein's chapter, as well as outlined the basic elements of their analysis. First, the chapter focused largely on regional nuclear, biological and chemical (NBC) deterrence since it posed difficult choices and challenges for U.S. policy makers. Second, the chapter addressed four key questions including: why NBC deterrence posed complex challenges; what the guidelines were for establishing a deterrence strategy; what to include in the policy and programmatic of deterrence; and what should the United States' near-term priorities be. Dr. Dunn then explained each of the questions in greater detail.

Regarding the complex challenges that regional NBC deterrence posed, Dr. Dunn explained that the target of deterrence was no longer a single, relatively known adversary such as the Soviet Union. Instead, multiple and lesser known adversaries throughout the world emerged to challenge the stability of the international environment. Inherent in this shift in adversaries were deep cultural and historical chasms, as well as the belief that NBC use might result in potentially high political rewards. Moreover, political constraints that limit counterproliferation efforts, and great uncertainty regarding U.S. NBC use and non-use served to complicate the challenges further.

Dr. Dunn also explained that prudent guidelines governing the strategy of deterrence were critical and necessary in ensuring success. First, the strategy must maintain a balanced perspective because deterrence should not serve as a panacea. Second, the strategy must move beyond that of punitive retaliatory use since chemical and biological weapons were more difficult to deter through this strategy. Third, the strategy should include a carefully planned and orchestrated set of peacetime actions that will demonstrate U.S. resolve.

With regards to policy and programmatics, Dr. Dunn recommended a declaratory policy of "deliberate ambiguity" because many other policies were inadequate for addressing emerging regional NBC threats. Conventional retaliatory use was not a sufficient nor credible alternative to traditional nuclear retaliation unless it threatened full scale conflicts against adversarial forces. However, Dr. Dunn did acknowledge that conventional threats against adversarial regimes might be credible against leaders who were concerned about securing their political power and personal survival. Enhanced denial capabilities, such as theater ballistic missiles defense (TBMD), were not effective because of their potential vulnerabilities. Passive defense measures, such as civil defense, were not practical for use against many countries who were willing to fight in chemically and/or biologically contaminated environments. Thus, Dr. Dunn argued that a

policy of deliberate ambiguity presented the best alternative against the full spectrum of NBC threats because it offered flexible response options.

Dr. Dunn concluded his presentation by recommending that the United States incorporate a series of peacetime actions in its near-term priorities. This might include intelligence sharing, joint exercises, and research and development (R&D) cooperation with regional allies and friends.

PANEL DISCUSSIONS:

Critique of "Actions to Reverse Proliferation: Voluntary Reversal," Dr. Matthew McKinzie

Dr. McKinzie praised Gen McCarthy's work on documenting the history of the Comprehensive Threat Reduction (CTR) program. He explained that little analytical work had previously been done in this area. However, Dr. McKinzie recommended that the chapter should devote a section on Project Sapphire, which studied the use of surgical strike in countering weapons proliferation.

Dr. McKinzie also complimented Gen McCarthy's emphasis on the legislative limitations that were placed on the CTR program of the former Soviet Union. But he expressed concerns regarding Gen McCarthy's example of the "coercion" of North Korea's nuclear program. Moreover, Dr. McKinzie argued that the chapter's focus on the U.S. perspective detracted from the broader scope of the analysis on proliferation reversal.

Instead, Dr. McKinzie presented a deeper exploration of why nation-states forego their weapons of mass destruction (WMD) capabilities. He explained that states generally ceded their nuclear programs for three reasons. First, states attempted to obtain state security¹ through treaty regimes, alliances, or bilateral treaties. Once states have successfully established viable security guarantees, then they become less inclined to develop and advance nuclear programs of their own.

Second, states attempted to obtain identities² within the international environment. This could be accomplished through transitions to democracies and/or acquisition of weapons of mass destruction. WMD was thus perceived as a status symbol and a method of deterring other WMD states. Only powerful states possessed weapons of mass destruction. The logic therefore becomes: One must acquire or develop weapons of mass destruction in order to advance one's international status.

¹ Dr. McKinzie defined state security as the "effectiveness of collective security arrangements."

² Dr. McKinzie defined state identity as the "relationship of the state to the international system."

Third, states voluntarily forego their WMD capabilities as a result of expense and difficulty. It has been mentioned previously that states attained state identities, as well as deterred other WMD states, through the acquisition and development of weapons of mass destruction. However, high acquisition and development costs, combined with the difficulty of maintaining an indigenous WMD program, frequently serve to persuade states to voluntarily forego their weapons of mass destruction capabilities and to explore less costly, but equally viable deterrence options.

Dr. McKinzie also presented an illuminating assessment of the current Department of Energy (DoE) stockpile stewardship program. Specifically, he criticized the DoE's program as compromising U.S. nuclear and non-proliferation policies because the current program did not focus on DoD "customer" requirements for nuclear deterrent capabilities. The DoE's nuclear stewardship also did not emphasize the remanufacture of proven weapons types in the enduring arsenal, nor did it emphasize primary performance in the area of boosting. Furthermore, the current stewardship program de-coupled new design certifications or significant design modifications from underground weapons testing. This compromised nuclear weapons safety and reliability, as well as undermined the significant security benefits of further START reductions and the nuclear Non-Proliferation Treaty (NPT) and Comprehensive Test Ban Treaty (CTBT) regimes. The de-coupling also served to compromise the potential successes of a START II treaty and CTBT entry-into-force (EIF).

The result of these factors was an increasing gap between the means for maintaining the U.S. nuclear deterrence program and current DoE stewardship programmatic objectives. Dr. McKinzie believed that the DoE stewardship will ultimately complicate U.S. nuclear and non-proliferation policies.

In response to Dr. McKinzie's review of the chapter on voluntary reversal of proliferation, Gen McCarthy concurred with his overall assessment that a collective set of issues resulted in the elimination of WMD capabilities by nation-states. Gen McCarthy also praised Dr. McKinzie's assessment of the Department of Energy's stockpile stewardship program. This inspired him to examine the relationship between voluntary and involuntary CTR programs, which he planned to incorporate into his chapter.

Critique of "Actions to Reverse Proliferation: Involuntary Reversal," Dr. Kathleen Bailey

Dr. Bailey offered a highly complimentary appraisal of Dr. Kay's chapter on involuntary reversal. She offered three suggestions that could illuminate the chapter further. First, Dr. Bailey proposed creating a chart that succinctly summarizes weapons inspections and compliance monitoring. (See Figure I) The chart would capture key elements in inspections and compliance monitoring for the range of weapons that are available on the international market. More importantly, the chart would serve as a base guideline for UN Special Commission (UNSCOM) inspectors to utilize on routine and challenged inspections, as well as on compliance verification missions.

Figure I

	Costs (in \$)	Time	Expertise	Number of People	Facility Size	Material and Equipment Availability	Value of S&A
N	>100 m	years	high ed., diverse	>1,000	large	some controlled	R/H E/M
B	< 5,000	days, weeks	some ed., biology	one or few	very small	available	low
C	≥15,000	weeks, months	high ed., chemistry, chem. eng.	few, several	small	available	low-med.
CM	>25,000	?	—	one, few	—	available	none
BM	>100m	years	high ed., engineers, diverse	many	large	available	low

A second recommendation made by Dr. Bailey was to expand the section on coercion of motivations. Specifically, Dr. Bailey inquired whether financial incentives could serve as strong motivations for states to cease their WMD capabilities.

Related to the coercion of motivations was Dr. Bailey's third recommendation of examining the role of involuntary reversal of motivations. One example that she cited was the overthrow of governments. It would also be useful in Dr. Bailey's opinion to examine the reasons why nuclear, biological, and chemical (NBC) and ballistic and cruise missiles (B/CM) could not be uncovered through the coercion and involuntary reversal of motivations.

In response to Dr. Bailey's recommendations, Dr. Kay agreed that a summary chart should be constructed and would be helpful in clarifying key elements involved in weapons inspections and compliance monitoring. However, he explained that it would be difficult to implement a standardized approach against states that employed asymmetric strategies.

With regards to motivation reversals, Dr. Kay explained that they were not always useful in explaining state behaviors. He cited post-war Germany as an example of how motivation reversal played little or no role in determining state aggression and

proliferation. Germany had been subjected to intrusive inspections following the end of the Second World War. However, the inspections did not serve to reverse Germany's aspirations to maintain or acquire weapons of mass destruction. Instead, Dr. Kay argued that societal failures served as the guiding factor in deterring further German aggression. Thus, Dr. Kay believed that motivation reversals were not critical to the analysis on involuntary reversals in proliferation actions.

Critique of "Deterrence," Dr. Victor Utgoff

Dr. Utgoff praised Dr. Dunn's and Mr. Bernstein's work on deterrence. He complimented several of the authors' key points, including: emphasizing the importance of demonstrating resolve through peacetime actions; recognizing that failure in integrating defense and demand would jeopardize U.S. interests and range of available options; and recognizing that the vulnerability of regional actors will serve as the fault line for U.S. successes in deterring proliferation of regional state actors.

Dr. Utgoff then offered several recommendations that could elucidate the chapter further. First, he asked that the authors clarify the costs to the United States when regional actors proliferate. Second, Dr. Utgoff countered the authors' recommendation for a U.S. policy of ambiguity. Dr. Utgoff believed that U.S. policies would not serve as decisive factors in governing NBC use. Instead, he argued that U.S. policy makers would determine NBC use through a range of criteria. It would therefore be beneficial for the authors to examine possible factors that could affect NBC use.

Third, Dr. Utgoff cautioned that the future of deterrence for the United States might become increasingly problematic. He was particularly concerned that Dr. Dunn and Mr. Bernstein failed to address situations where deterrence might not be a viable option in the future. Fourth, the chapter on deterrence examined how allies refrained from retaliatory attacks. However, the chapter did not examine instances where allies insisted on preemptive retaliatory actions by the United States. Fifth, the chapter discussed deposing adversarial leaders as demonstrating resolve. Dr. Utgoff argued that leaders such as Saddam Hussein have typically exhibited long survival rates. In order for this type of threat to be credible, adversarial leaders would have to feel vulnerable and susceptible to overthrow.

In response to these comments, Dr. Dunn explained that the United States and its allies clearly needed to prepare for the possibility of biological weapons (BW) attacks in the near future. Moreover, the United States will likely face a myriad of unpalatable choices, where failure to prepare for the "right" option would result in costly consequences.

Mr. Bernstein concurred with Dr. Utgoff's recommendation that a thorough examination of the costs of proliferation is needed. However, he disagreed with Dr. Utgoff's argument that U.S. declaratory policy was unnecessary because stated policies

have typically served as guidance on NBC use. Thus, even a policy of ambiguity was better than having no policy.

DISCUSSIONS:

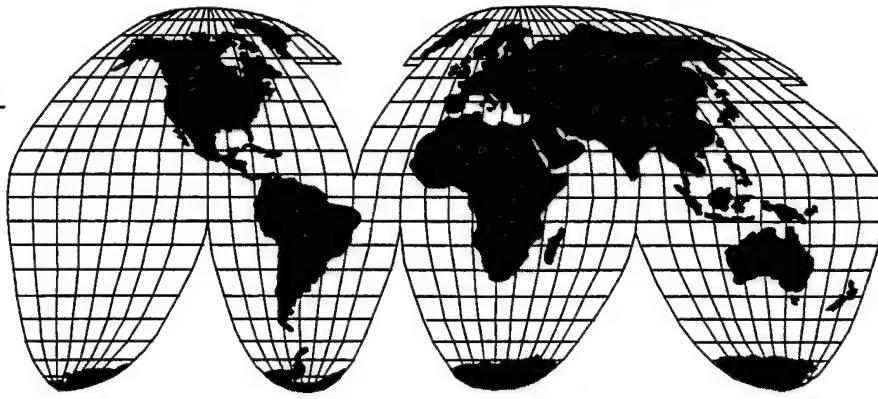
The first question that was posed to Gen McCarthy addressed the issue of Russian compliance with the six resolutions encompassed in the Nunn-Lugar bill. Specifically, the conference attendee inquired as to the level of confidence that the United States had regarding Russian compliance. Gen McCarthy replied that the United States possessed a fair degree of intelligence that provided reasonable confidence and understanding of the Russian nuclear program. He added that it would be difficult to measure the effectiveness of the CTR program in eliminating the nuclear stockpiles of Ukraine, Belarus, and Kazakhstan because U.S. intelligence had already revealed their de-nuclear intent prior to the actual implementation of the CTR program.

The second question that was raised focused on the utility of the UN Special Commission in chemical and biological weapons inspections. Dr. Kay explained that UNSCOM chemical weapons inspections were primarily focused on the detection of weapons and agents rather than key chemical-producing infrastructures. This was one of the problematic oversights in UNSCOM CW inspections. However, the inspections were generally successful in accomplishing stated mission objectives.

In contrast, biological weapons inspections were less successful because little had been known about Iraq's biological weapons program following the Persian Gulf War. Moreover, many inspectors were overly concerned about their protective gears, which debilitated their ability to conduct successful inspections.

Another conference attendee inquired why a U.S. declaratory policy of ambiguity was better than the current policy of no-use. Dr. Dunn explained that current U.S. policy was a policy of ambiguity by default. An overwhelming conventional response relied heavily on the particular use of chemical and biological weapons (CBW), as well as on the motivations of the countries that were using them. Conventional response was thus not credible under CBW use. A policy of ambiguity was beneficial because it provided U.S. policy-makers with a range of plausible options under the threat of NBC use.

The final question that was raised focused on the utility of UNSCOM inspections. In particular, the conference attendee questioned whether the costs and benefits of UNSCOM inspections deemed the organization worthwhile. Dr. Kay answered that UNSCOM was more successful in its inspections than other *ad hoc* inspection agencies. However, he recognized that UNSCOM could undergo improvement in the areas of training and information sharing.



Panel III

Lieutenant Colonel Jim Player, Chair
Ambassador Robert G. Joseph
Ambassador Henry F. Cooper
Doctor Robert Kadlec
Doctor Roger Molander
Doctor Keith Payne
Doctor Barry Schneider
Doctor Thomas A. Keaney

PANEL 3

Chair: Lt Col Jim Player

Participants: Amb. Robert G. Joseph and Dr. John Reichart, National Defense University
Amb. Henry F. Cooper, High Frontier
Dr. Robert Kadlec and Col Randall J. Larsen, OSD/ISP
Gen (Ret) Charles A. Horner

Discussants: Dr. Roger Molander, The RAND Corporation
Dr. Keith Payne, National Institute for Public Policy
Dr. Barry Schneider, Air War College
Dr. Thomas A. Keaney, National War College

PANEL PRESENTATIONS:

"NBC Military Planning Lessons Learned from Analysis and Wargaming," Amb. Robert G. Joseph

Amb. Joseph opened his presentation by explaining that the chapter discusses lessons learned and analysis based on NBC wargames. One lesson learned from wargame analysis, Amb. Joseph noted, is that although deterrence in an NBC regional environment helps protect against the consequences of proliferation, particularly in regions plagued by adversaries, other measures are necessary to meet the security challenges posed by NBC weapons.

Amb. Joseph explained that the chapter addresses three key political and operational questions posed by NBC wargames, including: how does one deter NBC use; how can one protect forces if NBC weapons are used; and how can one prevent follow-on use of NBC weapons. Amb. Joseph noted the methodology used in the chapter entailed analysis based on tabletop planning for military officers and conclusions drawn from both the offensive (Red) and defensive (Blue) teams in counterproliferation wargames. In essence, the analysis examined how NBC weapons might be used by identifying potential users and when, where, and why these users might use them.

Identifying NBC users necessitated examining potential adversaries in the global, emerging global, regional, rogue, and non-state categories. Once potential actors were identified, the objectives behind why each of them might use NBC weapons were carefully considered. Amb. Joseph articulated several of these objectives, including: to defeat the United States and/or its allies; to deter the United States from intervening in a conflict; and to intimidate the United States. Next, Amb. Joseph explained that the issue of when NBC weapons could be used was addressed. He added that potential adversaries and their associated objectives were divided into three time frames, including peacetime, crisis, or war (see Figure I).

The next logical step, according to Amb. Joseph, was to examine all potential targets of NBC use, including lethal and non-lethal employments. Amb. Joseph offered several examples of targets, including: combat units, military logistics, or civil infrastructure. He suggested this particular examination highlights the challenges in dealing with potential NBC weapons use against the United States.

Figure I

WHO/WHEN	PEACETIME	CRISIS	WAR
Global Adversary	Global influence Deter US	Deter US/Coalition Intervention	Deter escalation Defeat US Prevent defeat
Emerging Global Adversary	Regional Hegemony	Deter US/Coalition Intervention	Raise costs Prevent defeat Leverage outcome
Regional Adversary	Regional Hegemony	Deter US/Coalition Intervention	Raise costs Leverage outcome
Rogue State	Intimidate Provoke	Deter Intervention Threaten use to intimidate	Raise costs Intimidate and punish
Non-State Adversary	Covert	Threaten use to intimidate	Intimidate Punish

The final step in the analytical process involved collating all the information into a matrix to illustrate the means through which a potential actor could employ NBC weapons. Amb. Joseph remarked that both Dr. Joseph and he had developed several scenarios to identify: particular actors; time of NBC use; situation in which NBC was used; adversary objectives; and targets of NBC use. Observations made from each scenario were catalogued into a matrix (see Figure II for an example).

Figure II illustrates an adversary's use of NBC weapons in an early stage of conflict. Amb. Joseph emphasized that the chapter also examined other scenarios where NBC weapons were used as weapons of last resort. In fact, Amb. Joseph noted that NBC weapons used as weapons of last resort were the primary recurring theme from CP wargame exercises.

Figure II

Actor	<ul style="list-style-type: none"> • Regional Adversary
Time	<ul style="list-style-type: none"> • War
Situation	<ul style="list-style-type: none"> • Attack by regional adversary takes US, allies by surprise • Early in conflict; ground forces in contact; US/allied forces in region on the defensive • Air war still in question; air campaign prosecuted largely with US-based aircraft • Massive US-coalition build-up hampered by limited points of entry/operating bases • Raise stakes for the coalition before it is fully formed/ready to engage
Adversary Objectives	<ul style="list-style-type: none"> • Weaken/disrupt coalition • Secure near-term objectives • Delay/disrupt US-coalition deployments • Destroy/disrupt US-coalition ability to maintain essential logistics/C3
Targets/Delivery Systems	<ul style="list-style-type: none"> • Missile-delivered BW/CW to isolate forces, create weak points, divide coalition partners • SOF, missile delivered BW/CW on US ports of debarkation; coalition ports of embarkation • Missile delivered BW/CW (sustained, if possible) on tactical air bases
Observations	<ul style="list-style-type: none"> • Attack configured (extent, lethality, etc.) to minimize threat of large-scale retaliation • Use of BW/CW alters, perhaps radically, the US risk/reward calculations • Asymmetry of interests works against US; US public outrage over BW/CW use in region may not counterbalance the adverse risk calculations

Furthermore, Amb. Joseph articulated that the chapter sought to capture how planners, operators, and others believed NBC weapons affected their areas of work, i.e. how planners accounted for NBC weapons and how they thought these weapons might be used in the future. Amb. Joseph explained that the wargames were designed to provide Red Teams with limited, yet effective, nuclear, biological, and chemical capabilities. The Red Teams were asked to develop plans to use, or threaten to use, these assets against the Blue Team.

The results, remarked Amb. Joseph, indicated that no one “all-encompassing” plan could meet all the Red Team’s objectives. Each Red Team’s responses to the questions posed to them differed in scale and in scope. Amb. Joseph added, many Red Teams decided to use NBC weapons early in a conflict. They viewed these weapons as an effective means to off-set the Blue Team’s superiority.

According to Amb. Joseph, another lesson learned from the wargame exercises was that the Red Teams typically believed CW/BW had utility against the Blue Team, and Red Teams were generally creative in their planning. On the other hand, Blue Teams typically downplayed CW/BW effects and relied heavily on deterrence.

Amb. Joseph ended his presentation by summarizing key conclusions drawn from analysis of CP wargames. First, he noted that deterrence will remain the first line of defense to counter an NBC threat to the United States or its allies. Second, a sense of denial exists within the United States that an adversary will use NBC weapons. Amb. Joseph emphasized, the United States should demonstrate that the costs of adversary use of NBC weapons against the United States, particularly in light of active and passive defenses, will be too high to make their use worthwhile. Third, the United States should recognize that NBC weapons will likely be used in the early stages of a conflict. Amb. Joseph noted, adversaries may view CW and BW as weapons of choice. In light of this, he argued that such tactics would effect the nature of coalition warfare. Thus, Amb. Joseph stated that the United States must exploit the different capability levels of coalition members in order to deal with NBC weapons attacks.

"Active Defense," Amb. Henry F. Cooper

Amb. Cooper stated that his chapter addresses the importance of defenses against ballistic missiles. He explained, no defense capability currently exists to deal with the increasing cruise missile proliferation threat. According to Amb. Cooper, political constraints have kept the United States from building ballistic missile defenses.

Amb. Cooper provided a brief historical overview of U.S. active defenses in four time periods. First, from 1944 to 1972, no limits were placed on the United States for offensive and defensive capabilities. From 1972 to 1983, however, legal constraints such as the 1972 Anti-Ballistic Missile Defense (ABM) Treaty were placed on defenses. Next, during the period from 1983 to 1993, Amb Cooper explained that although the ABM Treaty was still in effect, discussions had begun to reverse the treaty and allow cooperation between the former Soviet Union and the United States to reduce nuclear weapons stockpiles. Boris Yeltsin, the President of Russia, had suggested expanding Ronald Reagan's Strategic Defense Initiative to allow Russia and the United States to work together and build a global defense system. However, the suggestion was abandoned by the United States. Finally, from 1993 to the present, Amb Cooper asserted that the ABM Treaty was still in effect, but noted that discussions have centered on strengthening the treaty.

Amb Cooper argued that active defenses are effective and therefore important. However, he argued that the schizophrenic nature of American policy is preventing them from being built. Although theater missile defense is needed, Amb Cooper stated, the Clinton Administration has deferred from building it because it does not want to abrogate the ABM Treaty.

Amb Cooper noted that the Proliferation, Threat and Response Report favored layered defenses. However, a close examination of such programs reveals that many of them were terminated due to policy favoring the ABM Treaty. Amb. Cooper emphasized, the ABM Treaty is costing the United States time, in terms of not being

prepared for threats, as well as money. In light of this, Amb. Cooper recommended the ABM Treaty be reversed.

Next, Amb. Cooper described several disconnects in current U.S. policy. First, space defense programs have been canceled because of the misconception that they are too costly and less effective than other defense programs. Second, current policy limits U.S. ability to build space-based sensors. However, these sensors provide the most effective means to collect information on missiles directed toward the United States or Allied territory. Amb. Cooper cited the current delay in the sensor program Brilliant Eyes as an example.

Third, Amb. Cooper noted that global defenses are one fourth the cost of two Theater High Altitude Advanced Defense (THAAD) batteries. Fourth, according to Amb. Cooper, the program for ground-based area defense or homeland defense has been curtailed. He suggested that the National Missile Defense (NMD) program had a budget of \$22-24 billion that included a six site system. However, that budget has since shrunk to \$100 million.

Amb. Cooper reemphasized that U.S. policy has inhibited the development of active defenses and suggested the United States could feasibly develop a cooperative program with Russia to build a defense system in the near future. However, if Russia does not want to cooperate, Amb Cooper recommended the United States terminate the ABM Treaty and begin development of its own active defense programs.

Amb Cooper concluded his presentation and noted that the Bush Administration had requested amendments to the ABM Treaty. Although their requests were approved by the Russians, the United States never acted on them. In closing, Amb. Cooper asserted, the notion that the United States cannot approach and cooperate with Russia is incorrect.

"Passive Defense," Dr. Robert Kadlec

In discussing U.S. passive defenses, Dr. Kadlec stated that passive defenses are defined under three broad areas: contamination avoidance, force protection, and decontamination. He noted that force protection, which includes individual and collective protection as well as medical support, does have a deterrent role. It provides the United States the capability to operate in an NBC environment during a crisis or war.

In reviewing the evolution of passive defenses, Dr. Kadlec said that for the United States, the development of passive defenses generally coincided with the development of offensive capabilities. He explained that passive defenses helped provide a robust capability to protect U.S. forces. Furthermore, Dr. Kadlec offered that other organizations besides the DoD, such as Congress as well as the scientific and commercial communities, supported the development of passive defenses.

Dr. Kadlec explained, a variety of lethal gasses were used during World War I. Their use proved challenging for the development of U.S. passive defenses to counter them, primarily because in order to provide adequate protection, these gasses had to be identified accurately. According to Dr. Kadlec, the United States was unprepared to deal with the chemicals used on its troops and instead borrowed equipment from France and the United Kingdom. Moreover, Dr. Kadlec remarked that the Department of the Interior suggested the Bureau of Mines should look into passive and offensive defenses for U.S. troops. He noted the Bureau of Mines eventually evolved into what is now known as the Chemical Warfare Center.

During World War II, Canada, the United States, and England gathered resources and worked together to develop passive defenses, Dr. Kadlec said. This coalition gathered intelligence information and captured enemy equipment to develop effective protective gear. Dr. Kadlec noted that the United States then began researching the costs and benefits of a biological weapons program, but concluded that the difficulty in using biological weapons overshadowed its ease of development. In light of this, the United States determined that biological weapons were not as useful as chemical weapons.

Dr. Kadlec then discussed current DoD policy and plans, and explained they have been influenced by recent events such as the Persian Gulf War as well as the limited capabilities of INSCOM, which despite good intelligence, did not know the extent of the Iraqi chemical stockpile. In addition, Dr. Kadlec suggested U.S. policy has been influenced by the increased proliferation of CW and BW as well as the recent implementation of the Chemical Weapons Treaty. He stated that a Government Accounting Office report from March 1996 claimed that U.S. forces are facing the same problems today as they faced during the Gulf War. Specifically, the report suggested there is still considerable need for more CW/BW equipment and training.

In addition, Dr. Kadlec noted the current lack of CW/BW medical support, which could ultimately result in needless casualties and a degradation of U.S. warfighting capabilities. Specific problem areas include, according to Dr. Kadlec, the slow progression of research and development (R&D) for passive CW/BW defenses, the lack of CW/BW training in Joint exercises, and inadequate CW/BW vaccine stocks.

Next, Dr. Kadlec discussed other challenges relating to the CW/BW threat. He suggested the U.S. level of preparedness for CW/BW attacks on ports and airfields is inadequate and must be addressed. Furthermore, he stated there is no uniformity in applying CW/BW defenses among the Services. Dr. Kadlec also pointed out that there are classification and security issues that must be examined. In particular, he stated that current and future treaty obligations dictate that the United States must be transparent in its bio-defense efforts. According to Dr. Kadlec, such transparency will provide other countries, perhaps even adversaries, insight into U.S. capabilities.

Finally, Dr. Kadlec expressed that there has been no real validation of the CW/BW threat by the DoD and policy makers. Moreover, the issue of CW/BW threats

has not been incorporated into the core curriculum for military education. Misperceptions about these threats need to be addressed on all levels of the military through education. Dr. Kadlec also noted that overall, the area of passive defenses still needs more funding. In closing, Dr. Kadlec said that the United States should consider the impact of biotechnology and genetic engineering as potential future opportunities to deal with CW/BW threats, particularly at a time when military budgets are being reduced.

“Counterforce,” Gen (Ret) Charles A. Horner

Gen Horner was unable to attend the conference.

PANEL DISCUSSIONS:

Critique of “NBC Military Planning Lessons Learned from Analysis and Wargaming,” Dr. Roger Molander

Dr. Molander praised the work of Amb. Joseph and Dr. Reichart. In particular, he lauded the methodology and typology used by them to discuss the results of their wargame analyses. In addition, Dr. Molander complimented the conceptual framework created by Amb Joseph and Dr. Reichart to examine the use of weapons of mass destruction. Although NBC military planning covers a variety of topics, Dr. Molander felt that the chapter was well written and should be published independently as well. He explained that his particular interest was in the analysis and wargaming conducted by Amb Joseph and Dr. Reichart. Although the analysis adequately covers when and how CW and BW might be used, he noted a lack of similar analysis relating to the use of nuclear weapons.

Dr. Molander remarked that the chapter’s matrices illustrating weapon types, possible end-users, and scenarios based on wargame analysis is insightful. In particular, he noted the matrix discussing adversary objectives, such as regional adversaries wanting to use WMD to disrupt U.S. forces, is correct. Although nuclear weapons are particularly prominent in the discussion of weapons of last resort, Dr. Molander presented a chart to illustrate why they should be handled differently from CW and BW and suggested they be omitted from the chapter matrices.

Dr. Molander suggested the chapter needs a more in-depth examination of the potential use of strategic weapons because they present the greatest challenge to U.S. national security. According to Dr. Molander, the potential for future nuclear weapons use, particularly in regional conflicts, presents a clear danger that should be addressed in conjunction with BW and CW use in future wargaming analysis.

In response to these comments, Amb. Joseph explained that both Dr. Reichart and he tried to separate NBC weapons in their study because they recognized the different uses of these weapons. Although NBC weapons are separated in actual game play and in

the research of their operational effects, Amb Joseph noted they are treated as one category in order to facilitate post-game analysis. Amb Joseph agreed that separating NBC weapons in game analysis might prove useful and offered to look into the matter for future game reviews.

In regards to the issue of nuclear weapons, Amb Joseph offered that particular attention has been given to CW and BW because they are more useful than nuclear weapons as military instruments to rogue states. He added, one of the many lessons learned from the Gulf War was, "Do not fight the United States without nuclear weapons." However, Amb Joseph noted that nuclear weapons play a diminished role in wargames because they are less flexible than CW or BW. In addition, use of nuclear weapons necessarily increases the probability of an adversary nuclear response. As a final note, Amb Joseph conceded that nuclear weapons do contribute to deterrence and therefore should play an important role in wargame exercises.

Critique of "Active Defense," Dr. Keith Payne

Dr. Payne complimented Amb. Cooper's chapter, and noted its linkage of counterproliferation, arms control, and nonproliferation concepts to create a new context for thinking about ballistic missile defense (BMD). Dr. Payne agreed with Amb. Cooper's conclusion that the threat of missile proliferation is increasing due to the increased range, accuracy, and payload of today's missiles. He noted the question is not whether a missile threat exists, but rather whether that threat will be directed toward the United States or its allies. Dr. Payne emphasized that because the threat exists, BMD is necessary. Further, Dr. Payne suggested the chapter correctly captures a key concern that U.S. military planning is constrained by not understanding whether or not adversaries will use WMD.

According to Dr. Payne, the need for an ability to reliably deter missile threats, i.e. BMD, should be emphasized more strongly in Amb. Cooper's chapter. Dr. Payne cautioned, there is a lingering Cold War belief that the United States can shape deterrence stability, or the probability of war, by simply adjusting its force structure. He said this belief is incorrect and praised Amb. Cooper's interpretation of this misguided notion.

Dr. Payne agreed with Amb. Cooper's assessment that the Anti-Ballistic Missile (ABM) Treaty places the United States in a vulnerable position because it prevents it from seriously considering the development of missile defenses. Dr. Payne added that too many questions regarding missile defenses are addressed to lawyers and not military planners.

In response to Dr. Payne's remarks, Amb. Cooper agreed that the threat of an accidental Russian missile launch as well as the potential future proliferation threats from China are concerns that are often ignored. In addition, he offered that countries like China will have the capability to threaten U.S. security in the future and stressed the importance of missile defenses to counter that threat.

Amb. Cooper emphasized, the United States could spend defense money more wisely by investing in the development of boost phase intercepts and better missile defenses. In addition, he offered to strengthen the National Missile Defense (NMD) section of his chapter, but noted the inherent difficulties in doing so due to the current vague definitions of what constitutes strategic defenses. Finally, Amb. Cooper acknowledged Dr. Keaney's point that counterforces should be separated from active defenses. Specifically, Amb. Cooper suggested that BMD could be considered post-boost phase, whereas counterforce could be considered pre-boost phase.

Critique of "Passive Defense," Dr. Barry Schneider

Dr. Schneider praised the chapter's historical research outlining the use of passive defenses in World War I and World War II. However, he offered a question that should be addressed in the chapter's historical perspectives section: "Why, after thirty years of the Cold War, was the United States not better prepared to face CW/BW threats?" Dr. Schneider also lauded the chapter's description of current passive defense programs, including research and development (R&D), organizational changes to cope with CW issues, and the status of vaccines against CW and BW.

Dr. Schneider remarked, the level of secrecy required to discuss U.S. passive defenses is unclear. Regardless, he believes more transparency is needed to discuss passive defense issues, and added that the chapter should discuss U.S. passive defense vulnerabilities in greater detail. Further, Dr. Schneider recommended the chapter discuss what types of passive defenses the United States needs to protect its military forces. The United States should engage its allies in discussions regarding what passive defenses are required and what progress has been made in their development.

According to Dr. Schneider, the CINCs' staffs must be better educated in passive defenses. Furthermore, the level of education on passive defenses and their benefit to the United States must be elevated to the highest levels of government, including the White House.

The chapter should incorporate specific issues as well. As an example, Dr. Schneider cited recent General Accounting Office (GAO) reports on other important issues such as U.S. chemical weapons decontamination (DECON). He added that the United States does not have adequate, large area DECON capabilities to cope with a chemical attack on a port or a fixed facility. In light of this, Dr. Schneider recommended that a discussion of DECON capabilities as well as an examination of how DECON could be accomplished for large areas should be incorporated into the chapter.

Finally, Dr. Schneider suggested that the importance of biological detection be included in the chapter. He stated that current biological detection capabilities are limited because detection is possible only *after* symptoms appear. Dr. Schneider emphasized the

importance of early detection and recommended the chapter mention the criticality of developing such a capability as soon as possible.

In responding to Dr. Schneider's comments, Dr. Kadlec conceded that the lack of U.S. passive defenses is understated and that the CINCs and other military planners need to be educated on the subject through Professional Military Education (PME). He added that it will become increasingly difficult for the United States to launch a pre-emptive strike and that it would be placed in a reactive position in the future. As a result, greater emphasis must be placed on engaging coalition forces in order to prevent them from feeling the need to proliferate to counter a WMD threat. Dr. Kadlec also noted that civilians are a strategic part of the equation and that public health organizations should be prepared to deal with a possible chemical or biological outbreak.

Critique of "Counterforce," Dr. Thomas Keaney

Dr. Keaney stated that Gen. Horner's chapter cites the Gulf War as the starting point for counterforce. However, in Dr. Keaney's view, the concept of counterforce can be traced back to the bombing campaigns of WWII, as well as to the attacks on B-1 and B-2 research facilities. Furthermore, the concept of counterforce emerged in the 1950's as part of U.S. nuclear strategy. Dr. Keaney also disagreed with Gen Horner's assessment that nuclear weapons do not serve a deterrent role. In his view, nuclear weapons do serve an important deterrent role, at least as residual deterrence. However, Dr. Keaney conceded that the deterrent role of nuclear weapons against CW and BW is minimal.

In regards to counterforce, Dr. Keaney noted Gen Horner's discussion of programs to develop targeting capabilities against specific sites. He offered, the development of such capabilities would lead to a deterrent effect. However, Dr. Keaney revealed a gap in Gen Horner's chapter between general deterrent strategy and the tactics behind eliminating specific enemy sites. In addition, Dr. Keaney stated that Gen Horner's recommendation to use a long-range aircraft to serve as counterforce weapons systems, such as B-2's mated with conventional ICBMs, was flawed because it would be too difficult and costly to implement.

Dr. Keaney suggested discussion of pre-emption should be eliminated from Gen Horner's chapter. In his view, the definition of pre-emption is "fuzzy." For example, Dr. Keaney offered that in war, pre-emption refers to destroying enemy targets before they are deployed, which differs considerably from the definition of strategic pre-emption.

Finally, Dr. Keaney praised Gen Horner's discussion of the role of intelligence and when/how it should be deployed. However, he believes the chapter over-emphasizes key aspects of the Gulf War, namely the use of underground targets. Instead, Dr. Keaney recommended it discuss more practical threats, such as the placement of NBC factories and storage facilities in civilian neighborhoods and how to properly eliminate these threats.

Gen Horner did not offer responses to Dr. Keaney's comments as he was unable to attend the conference.

DISCUSSIONS:

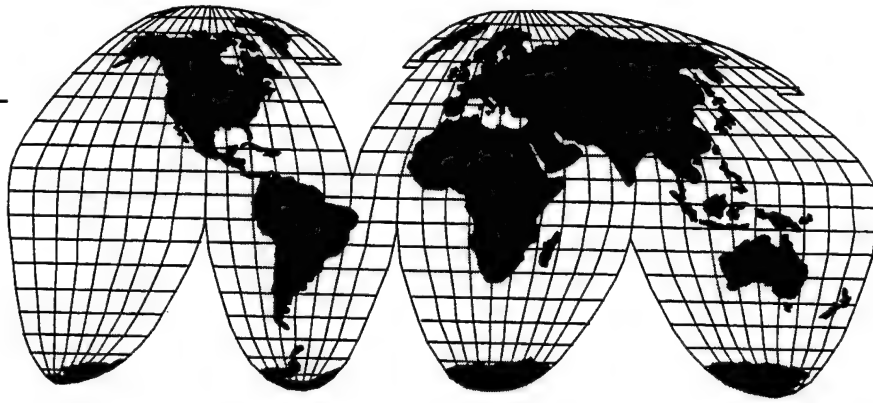
The first question was posed to Amb. Joseph. Specifically, a conference attendee inquired if Amb. Joseph's belief that nuclear weapons were ineffective deterrents was based on the results of Red Team responses to his wargames. Amb. Joseph offered that the issue of nuclear deterrence and the threshold of pain before use is considered in the games. Participants have consistently judged the utility of nuclear weapons to be relatively low. As a result, Amb. Joseph suggested the use of nuclear weapons as a deterrent against an opponent's use of CW/BW is ineffective, primarily because the interests on both sides are asymmetrical. The fact remains that rogue states might take actions that risk the chance of nuclear war. As such, the United States must strengthen its deterrence levels.

Dr. Molander noted, one must use caution when applying Red Team responses as a basis for military planning. He stated that only a limited volume of data is available through wargames, and noted the inherent difficulty in developing adequate military plans from incomplete data. Dr. Joseph agreed, and noted that his chapter examines responses to NBC use through the matrices. However, Dr. Joseph remarked that factors of non-attributed use are not addressed in the chapter matrices. In addition, Dr. Joseph offered to build passive capabilities and other options into future wargames.

The second question was posed to Amb. Cooper and inquired if he would advocate a reduction in Naval forward presence to facilitate a defense of the homeland against a ballistic missile attack. Amb. Cooper replied, he would not advocate such a reduction and suggested that if the United States had cooperative-based security, it would not need much more forward presence than what is already deployed. He emphasized that Navy theater wide defense is part of the core TMD program, and only after the homeland defense is in place can the United States consider ground changes.

Next, a participant asked Dr. Kadlec what role the pharmaceutical industry had in developing defenses against BW and if there were an opportunity to strengthen the Biological Weapons Convention in Geneva, Switzerland. Dr. Kadlec responded that local pharmaceutical companies had been approached about developing defensive BW vaccines. However, most of the companies expressed several concerns: first, they did not see a profit margin in this area; second, they expressed concern over the stigma attached with conducting research on BW vaccines and the potential inspections under the BWC for verification purposes; and third, they were concerned over potential U.S. economic security issues, such as the loss of company proprietary information, that could result from BWC inspections.

Finally, a question was posed if counterproliferation wargame participants recognized the shortfalls in U.S. force planning. If so, were the shortfalls addressed in the games? Amb. Joseph replied, there appears to be a lack of appreciation for how CW/BW will be used. The QDR states that the United States has to do more to protect against CW/BW and that it needs to think differently about the problem. Dr. Keaney added, game participants' responses to a given scenario will differ given the presence of CW/BW.



Panel IV

Major Vincent J. Jodoin, Chair
General (Ret) Wayne A. Downing
Miss Caryn A. Leslie
Lieutenant Colonel Jeffrey A. Larsen
Doctor Richard Falkenrath
Mister Doug MacEachin
Lieutenant General (Ret) James Terry
Scott

PANEL 4

Chair: Maj Vincent J. Jodoin

Participants: Gen (Ret) Wayne A. Downing

Ms. Caryn A. Leslie, National Air Intelligence Center (NAIC)

Lt Col Jeffrey A. Larsen, Institute for National Security Studies (INSS)

Discussants: Dr. Richard Falkenrath, Harvard University

Mr. Doug MacEachin, Harvard University

Lt Gen (Ret) James Terry Scott, Harvard University

PANEL PRESENTATIONS:

"Measures to Counter Paramilitary, Covert, and Terrorist Threats," Gen (Ret) Wayne A. Downing

Gen Downing's presentation focused on the lessons gleaned from the Khobar Towers bombing. He explained that paramilitary, covert, and terrorist threats have traditionally been viewed as "adjuncts" to larger threats. However, they were now viewed as "stand-alone" threats because of their potential lethality. Moreover, paramilitary, covert, and terrorist threats were increasingly characterized by their transnational, asymmetric, and psychological natures. The variety and lethality of new chemical and biological agents exacerbated the threats further.

The United States had not been able to address these threats previously because of inter-agency competition for resources that have resulted in sub-optimization in anti-terrorist research and options. Furthermore, the increasing likelihood of attacks against the continental United States (CONUS) and forward deployed forces made protection even more difficult, as illustrated in the recent bombing of the Khobar Towers Apartment Complex in Saudi Arabia. Thus, Gen Downing recommended adopting integrated and balanced response efforts by the U.S. Government and the Department of Defense, as well as directing attention to the paramilitary, covert, and terrorist threats aimed at the CONUS and abroad, in order to better prepare against these emerging threats.

Gen Downing then outlined the eight lessons learned from the Khobar Towers bombing. They included: situational awareness; human intelligence; posture against most likely threats; active and passive measures; use of technology; tailored training and orientation; chain-of-command engagement; and force protection. Gen Downing then described each of the lessons in greater detail.

First, situational awareness enhanced knowledge of the environment, local security structure and officials, and regional intelligence. Second, human intelligence provided warnings for preemption, preparation, retaliation and prosecution. Third, posturing against most likely threats reduced the probability of threats emanating from

paramilitary, covert, and/or terrorist operations. Fourth, active and passive measures were critical for deterring potential attacks. Fifth, the use of technology enhanced performance and survivability, as well as detected, protected, neutralized, and transported NBC weapons. Sixth, tailored training and orientation provided assessments of high threat areas, the civilian populace, and facilitated consequence management. Seventh, chain-of-command engagement amplified knowledge of regional issues and fostered relationships with area security and political officials. Finally, force protection was essential to unit operations, and should therefore not be treated independently of all other protection functions.

“Intelligence Challenges,” Ms. Caryn A. Leslie

Ms. Leslie presented her chapter that she had co-authored with Maj Gen John Casciano, AF/XOI, on “Intelligence Challenges.” She began by cautioning against the misuse of intelligence. Ms. Leslie explained that intelligence provided the foundation upon which policy should be made. It acted as a catalyst or impetus for policy changes, rather than as an instrument of policy.

Ms. Leslie then described some of the challenges that the intelligence community currently faced. Within the emerging strategic environment, new threats were more diverse and more difficult to classify because they were lesser known than the threats of the Cold War era. They could not be easily relegated or assigned to a specific entity or actor. For these reasons, intelligence had not been targeted towards proper missions or use.

Instead, Ms. Leslie believed that the intelligence community should concentrate its analytic efforts on adversarial *motivations*. A proper understanding of motivations would enable the intelligence community to forewarn U.S. decision-makers of the threats that certain adversaries posed in a timely fashion. This could be accomplished through the collection of intelligence by U.S. special operation forces (SOF) and human intelligence (HUMINT).

The intelligence community also needed to understand which actors (both state and non-state) actually govern the acquisition and use of weapons of mass destruction. This included identifying actors or states that were purchasing dual-use technologies. In addition, a thorough and proper understanding of adversarial doctrine regarding WMD use would be beneficial, even though Ms. Leslie conceded that doctrine would vary from actor to actor.

Another recommendation that Ms. Leslie made was for the intelligence community to cooperate with, and assist in U.S. military arms control functions. The U.S. military could concentrate efforts on enforcing treaty stipulations, while the intelligence community could assist in monitoring compliance.

Finally, the intelligence community could best serve the policy community by answering the "who, why and how" questions through timely relay of essential information. This would minimize communication failures, as well as equip the policy community for answering the remaining "what should the United States do" question. Ms. Leslie cautioned that the intelligence community was not, and should not, be responsible for determining preemptive or response actions. This was the responsibility of the policy community.

Ms. Leslie concluded her presentation by offering some predictions of, and recommendations for, the future of the intelligence community. First, she believed that SOF intelligence would become increasingly more difficult to conduct due to the nature of the strategic environment. Second, the intelligence community, particularly within the HUMINT arena, should place greater emphasis on cultural training. Securing knowledge of regional cultures would enable those who gather intelligence to encounter greater success. Third, the intelligence community should focus efforts on developing new sensors for chemical and biological agents detection. This was particularly critical in light of emerging CBW threats. Fourth, the intelligence community should identify those allies that could be trusted with shared information. Cooperation with friendly nations would facilitate the gleaning of intelligence, as well as improve regional cultural understanding.

"International Cooperation," Lt Col Jeffrey A. Larsen

Lt Col Larsen's presentation focused on the cooperative efforts of NATO. He explained that the issue of proliferation was important to the NATO agenda because proliferation of weapons of mass destruction undermined the development of a stable security system in Europe. NATO was especially concerned about the possibility of a Revanchist Russia, regional conflict involving WMD, and adversaries, such as the Middle Eastern and Northern African states, that were armed with weapons of mass destruction.

For these reasons, NATO has opted to remain proactive in deterring the threat of proliferation through defusing proliferation incentives; enforcing international sanctions against proliferants; conducting offensive military actions against proliferants; and developing ballistic missile defenses.

Lt Col Larsen also explained that NATO established three committees to combat the threat of proliferation. They included the Joint Committee on Proliferation, which was chaired by the NATO Deputy Secretary General; the Senior Political-Military Group on Proliferation (SGP); and the Senior Defense Group on Proliferation (DGP). All three committees were critical in identifying threats and risks that challenged the security of the Alliance, as well as articulating existing capabilities, shortfalls, and prescribed solutions.

A comparison between NATO and U.S. counterproliferation efforts was presented next. Lt Col Larsen explained that both the United States and the Alliance maintained

two core elements: prevention and protection against the proliferation of weapons of mass destruction. Both NATO and the United States actively participated in intelligence sharing. U.S. funding and CP efforts were used by NATO. Both the Alliance and the United States emphasized theater missile defense. Moreover, the Alliance and the United States maintained similar lists of shortfalls, priorities, and prescribed solutions. The singular difference between the United States and NATO was that U.S. counterforce differed from NATO response capabilities. NATO simply polled nations as to existing capabilities rather than pursued new ones.

Lt Col Larsen concluded his remarks by raising a few questions for NATO. First, he inquired as to the source of funding for NATO counterproliferation initiatives. Second, he wondered which NATO organization(s) should oversee implementation. Third, Lt Col Larsen asked whether nonproliferation considerations should be included in NATO's long-range planning cycles, particularly in the areas of force goals and new systems acquisition. Finally, he advised a continuation of intelligence sharing, and strengthening political will even in operations that involved weapons of mass destruction.

PANEL DISCUSSIONS:

Critique of "Measures to Counter Paramilitary, Covert, and Terrorist Threats," Dr. Richard Falkenrath

Dr. Falkenrath outlined four key points in his critique of Gen Downing's chapter on countermeasures. First, the chapter should recognize that different strategies are required to counter varying threats. This is especially applicable for target sets that are significantly wider than U.S. forces deployed abroad.

Second, defense of emerging asymmetric threats required vastly different strategies than defense of military bases and forward deployed forces. Dr. Falkenrath recommended assessing specialized capabilities to counter asymmetric and nuclear, biological and chemical (NBC) threats as a necessary preventive measure.

Third, posturing against most-likely threats was not the same as posturing against NBC threats. This was significant in light of rising terrorist NBC capabilities. It might thus be beneficial for the chapter to focus on the likelihood of emerging threats and the possible consequences of these threats rather than on most-likely threats.

Fourth, only the Department of Defense (DoD) possessed appropriate leadership and expertise to address the new challenges of the post-Cold War strategic environment. Dr. Falkenrath recommended that the DoD carefully and thoroughly assess strategies for continental U.S. (CONUS) defense and protection of the civilian population. Moreover, Dr. Falkenrath believed that the Department of Defense should take the initiative to develop concepts, technologies, and capabilities that could be applied to CONUS defense.

In response to these recommendations, Gen Downing explained that the United States military should establish priorities in mission areas because it could not protect against all threats in all situations. Moreover, military tactical and police intelligence could enhance situation awareness; thereby, expanding the range of options for the military Services. Finally, Gen Downing recommended an examination of the role of Reserve components and the National Guard as possible alternatives or supplements to Active armed forces.

Critique of "Intelligence Challenges," Mr. Doug MacEachin

Mr. MacEachin presented a dissenting view of how intelligence could serve as a viable tool in countering proliferation. He explained that a clear definition of proliferation needed to be established first before intelligence could be applied to the specific analysis. Mr. MacEachin thus defined proliferation as threats that emanate from WMD use.

In his viewpoint, Mr. MacEachin believed that the intelligence community must return to a basic analysis of threats, actors, and motivations rather than attempting to focus on a broad range of issues. One organization or community could not and should not be responsible for all intelligence. A general and all-encompassing approach was doomed to failure.

Instead, Mr. MacEachin urged the intelligence community to differentiate between various types of available resources. He explained that the motivation of state actors differed vastly from that of non-state or rogue actors. For this reason, it would be better if the intelligence community focused more on requisite analysis of principal issues rather than addressing a range of broad overarching challenges.

The only comment that Ms. Leslie made in response to Mr. MacEachin's recommendations was for the intelligence community to concentrate analytical efforts on the future. She agreed with Mr. MacEachin's premise that intentions and motivations were significant areas that required much focus particularly in light of emerging non-state actors within the global security environment.

Critique of "International Cooperation," Lt Gen (Ret) James Terry Scott

Lt Gen Scott complimented Lt Col Larsen and his co-author, Col Guy Roberts on their chapter on international cooperation. The chapter succeeded in outlining key counter-proliferation initiatives in both the United States and NATO. However, a number of narratives could elucidate the chapter further. Lt Gen Scott therefore made four general recommendations.

First, although the analysis thoroughly described international cooperation efforts since NATO's establishment, it nevertheless neglected to examine major cooperative efforts in the pre-NATO period. In order to augment the analysis, Lt Gen Scott

recommended that the authors include a section on the history of international cooperation.

Second, the chapter examined major cooperative issues that were NATO-specific. But it failed to capture the broader scope of cooperation with non-NATO allied countries.

Third, some consideration should be given to unilateral and bilateral cooperative actions, particularly in light of the U.S. efforts in advancing and supporting international alliances.

Fourth, greater cooperation is needed between the intelligence community and local police forces in countering the emerging threat of "grand terrorism." Both communities could greatly benefit in the sharing of information and resources in deterring and combating terrorism.

In response to these recommendations, Lt Col Larsen explained that it would be difficult to complete a comprehensive analysis on international cooperative efforts because the number of available and reliable resources were rather limited.

DISCUSSIONS:

The first question addressed the issue of disagreements between NATO countries over weapons of mass destruction. Lt Col Larsen explained that NATO countries have typically disagreed over preemption of counter-proliferation.

The next series of questions were addressed to Ms. Leslie. First, how should the intelligence community address the challenges of emerging demands given that the intelligence and law enforcement communities have been criticized for being too slow to transition from the Cold War paradigm? Furthermore, would open source materials and recognized experts from academia facilitate the understanding and analysis of emerging threats? Finally, how should the intelligence community prepare the policy community for ambiguous warnings?

Ms. Leslie explained that the intelligence community needed to reorient itself to focus more on non-state actors rather than on traditional state actors. This should become part of the analytical re-training within the broader intelligence community.

With regards to the use of open sources, Ms. Leslie agreed that they were greatly beneficial and available in the post-Cold War era. However, they required tremendous time and analytic effort, as well as presented the problems of assumption-based and biased information. She thus cautioned against sole reliance and usage on open source information.

Similarly, preparations for the policy community against ambiguous threats presented the problems of misguided judgment and misinterpreted information. It would be extremely difficult for the intelligence community to forecast all emerging threats and capabilities within the nebulous post-Cold War security environment. Therefore, it would be better for the intelligence community to focus its analytic efforts on several key intelligence areas rather than attempt to hedge against a spectrum of ambiguous threats.

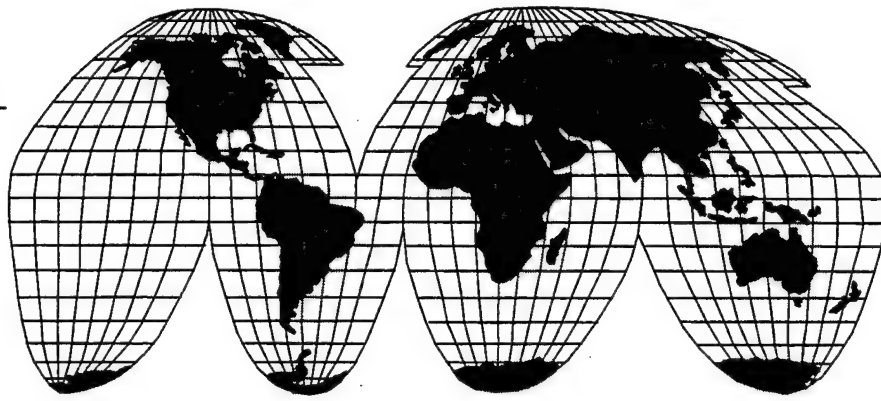
Another conference attendee inquired whether Gen Downing could explore the relative merits of assigning the consequence management of WMD events to the National Guard as a means of addressing both domestic incident-response and warfare devastation.

Gen Downing explained that the National Guard comprised of 52 individual command posts; thereby, making the distribution of tasks in times of crises extremely difficult. However, Gen Downing supported greater involvement and preparedness from local police and fire departments in order to deter and combat emerging acts of terrorism on the U.S. homeland.

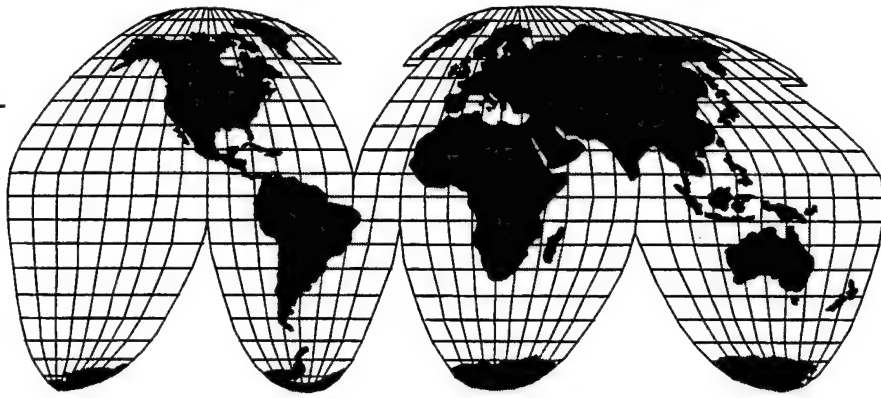
The next question focused on possible collaborative efforts between the Federal Bureau of Investigation (FBI) and the Central Intelligence Agency (CIA) in combating the issue of terrorism. Mr. MacEachin explained that significant criticisms of the CIA's apparent inability to adapt to the post-Cold War strategic environment have been made by various bureau investigators. This has created friction between the two agencies that precluded the possibility for close inter-agency collaboration.

The final question that was raised examined the issue of military policing functions. In his comments, Lt Gen Scott had emphasized the role of the police in countering domestic terrorism. The question raised was whether Lt Gen Scott viewed an increased policing role for the U.S. military in light of possible domestic terrorism.

Lt Gen Scott replied that the United States military should not take on greater policing functions. Instead, the Services should work in close coordination with domestic police forces to deter and combat the threat of terrorism.



Luncheon Presentations



Dr. Ashton B. Carter

Luncheon Address
29 July, 1997

Dr. Ashton B. Carter

Americans watching the evening news for the past four years may be forgiven for having the impression that the security issues of our time arise in such places as Bosnia, Rawanda, Haiti, Liberia, and Somalia. Yet we know, and they sense, that these are places and problems of secondary importance. Those Americans might be surprised, and even a little disturbed, to learn that these same issues consume the lion's share of the time and agenda of the foreign and defense policy leaders of the United States. The calendars of these leaders are driven in part by the newscasts. They must show the public that they are dealing competently with the issues in the news. The news, for its part, is driven by the drama and film footage of events in foreign places, regardless of whether those events in fact threaten the national interest of the United States.

Some pundits attribute the preoccupation with second-order security issues to the supposed predilection of President Clinton to deal with domestic issues. Or the supposed idealism of Americans, compelling us to righteous activism around the world. But the deeper reason for the focus on second-order issues is the unusual and happy circumstance of U.S. security today. We face no major traditional military threats to our security. The Soviet Union is gone. Russia could not possibly reconstitute a first-order threat to Europe for decades. Some conjure up China as the enemy of the future. But that is not only a highly arguable probability for a remote future; it is a probability over which U.S. policy can exert some influence.

If the "A list" is empty, even the "B list" is looking a bit thin. The two Major Theater Wars (formerly Major Regional Conflicts) around which so much of our military planning and force structure is necessarily built are looking less formidable by the day if conceived as purely conventional engagements. The U.S. deployment to the Gulf in response to Iraq's October 1994 troop movements near the Kuwaiti border was such an improvement over 1991 in speed and strength that Saddam Hussein quickly backed down. North Korea still has the capability to launch a destructive war on the Korean peninsula, but the capability of its starving population to sustain the campaign is withering.

So we end up with the "C list": Bosnia, Somalia, Rawanda, Haiti, etc. The United States is enjoying a period of peace and influence it has never had before. But while this is to be savored by the public, foreign and defense leaders should not be so indulgent. A period of absence of threat stretches us strategically, summons vision and foresight to act strategically when events and imminent threats do not compel us to do so. That is the business of statecraft in the Post-Cold War era.

The way to sharpen focus on the strategic requirements of our time is to ask the question, "How will the Post-Cold War era end?" How can we prolong this period of peace and influence? How can we ensure that if it must end, it ends gracefully, without cataclysm? And what is the name of the era that will follow it?

PREVENTIVE DEFENSE

Former Secretary of Defense William Perry and I have begun pursuing answers to these questions in an effort we refer to as "Preventive Defense." Preventive Defense is the job of preventing major new "A-List" threats to U.S. security from emerging.

Two world wars persuaded American defense leaders that it was better to deter aggression rather than to mobilize and defeat it after it had occurred. The post-war leaders in turn persuaded the American people and Congress to adopt a system of high military spending and global alliances to deter Soviet aggression. Post-Cold War leaders have a different challenge, to back up one step further and act to prevent threats from emerging in the first place: "preventive defense." From defeat to deter in the first half of the century; from deter to prevent in the second half and into the twenty-first century.

We have identified three major sources of future threats that deserve an effort at Preventive Defense. The first you might call a Weimar Russia syndrome, in which a defeated enemy is allowed to fall prey to its worst tendencies. One can imagine four courses for Russia, and three of them hold serious dangers for U.S. security. In the best, reformers prevail and their vision of Russia as a "normal," mainstream European state also prevails in foreign policy. In a second, Russia would again turn against the West and rekindle a kind of Cold War. She could not possibly recover her full power for global threat for decades, but in the meantime her nuclear arsenal and still formidable conventional forces could menace her Eurasian neighbors. A third Russia would not attempt to challenge the West frontally, but instead would become the "bad boy" of Eurasia, arming rogue states like Iran and Iraq, abetting proliferation, and acting as spoiler of peace processes from the Middle East to Bosnia by backing extreme factions. A fourth Russia would simply collapse from internal discord, bequeathing its nuclear arsenal to warlords carving up the carcass.

American policy cannot control which of these futures Russia will follow. But we have some influence and history requires us to exercise it.

The second focus of Preventive Defense is China. Russia is in decline, but China is on the rise. China will be defining its security identity in the next decade. There is no structural reason why its purposes must be inimical to ours. We of course hope that it will continue on its post-Mao path of integration into the world community. Once again, U.S. policy can help to shape the outcome of this great power awakening.

The third mission of Preventive Defense is the topic of this meeting: proliferation of weapons of mass destruction. Here the objective is not only to prevent proliferation from occurring in the first place, but also -- and this is the crux of Counterproliferation -- to prevent proliferators from scaring away or chasing away an otherwise unmatched U.S. military capability if they obtain weapons of mass destruction. And some opponents will obtain such weapons, because we will not be successful at all times and in all places at preventing proliferation.

COUNTERPROLIFERATION

The Counterproliferation Initiative grew out of after-action analyses of Operation Desert Storm. Particularly distinctive in my recollection was a Defense Science Board study conducted in the summer of 1992 in which I was privileged to participate.

Desert Storm was of course a spectacular feat of arms for the U.S. military. But one could also perceive in each category of special weapons -- nuclear, biological, chemical, and ballistic missiles -- intelligence surprises and lapses in military preparations that might have been disastrous if Saddam Hussein had taken a few more years to prepare for war.

His nuclear program, while not close to producing weapons, was both larger than and technically different from what U.S. intelligence understood before the war.

Ballistic missiles played only a small part in the war militarily, serving as the functional equivalent of randomly parked car bombs. But their political profile was extremely high. The person on the street remembers Desert Storm above all for Scuds and Patriots. In addition to their high political profile, ballistic missiles had the potential to change the strategic character of the war by provoking Israel to enter it. Finally, we now know that Saddam Hussein had prepared biological warheads for his Scuds.

The most disturbing surprises were in the field of biological weapons. We now know, through the efforts of UNSCOM, that Saddam Hussein possessed a diverse and thoroughly weaponized biological warfare capability. We did not know he had them, and we did not know the likely consequences of attacking the biological warfare installations we did know he had.

Finally, Iraq possessed chemical weapons at the front and had used them previously in war. Yet Saddam Hussein chose not to use them against us. Why? Was he deterred? If so, how?

One would have liked to have had a better handle on the problems and mysteries in all four of these weapons categories before the war began.

A second prompt for the Counterproliferation Initiative came in 1993 and 1994 as the confrontation developed over the North Korean nuclear program. In the Korean theater as in the Gulf, it became abundantly apparent that a major regional contingency would not be a purely conventional war.

These experiences taught us that proliferation is more than a diplomatic problem, it is a military threat. Since it was military threat, we asked ourselves, why was DoD so uninvolved and seemingly so unconcerned? Why was there exquisitely detailed intelligence on the Pakistani nuclear program, and so little operational intelligence on the Iraqi or North Korean chemical weapons and biological weapons arsenals?

First Secretary of Defense Aspin, then Secretary Perry, emphasized that DoD had to face squarely the question "What if proliferation?" and develop conventional capabilities to deter and defeat proliferators, recognizing that our nuclear deterrent will always be a factor but should not be the only arrow in our quiver.

This was a new thrust and deserved a new name: counterproliferation.

Counterproliferation does not devalue efforts to prevent proliferation in the first place, but complements them. First, to the extent we can make weapons of mass destruction less effective as weapons against the U.S. military, we reduce incentives to proliferators to obtain them in the first place. Second, by becoming more involved in proliferation policy, DoD can contribute more strongly through its analytical and technical capabilities to the overall national effort. At the same time it adopted the Counterproliferation Initiative, DoD also strengthened several efforts of its own to contribute to prevention, notably the Nunn-Lugar program and reform of the export control system to make it more effective.

It is one thing for the leadership to propound a new defense need, but it is our military professionals who must take aboard counterproliferation and implement it. We resisted the impulse to treat the Counterproliferation Initiative like the Strategic Defense Initiative and to limit it to an acquisition ghetto with a separate budget and letterhead lodged in its own quarters on the Pentagon's periphery. Counterproliferation is an aspect of mainstream warfighting and must be marbled into the way we do business. Our better commanders "get it" and do not deny the threat or throw up their hands and say counterproliferation is "too hard." They recognize that being good at this aspect of warfare is a professional responsibility in this era. This conference is devoted to helping commanders implement counterproliferation and giving them ways to improve their capability that are not "too hard."

GRAND TERRORISM

But it is my nature always to be looking ahead to the next problem. Today, five years after the 1992 Defense Science Board study that first convinced me of the

importance of counterproliferation, I would like to pose for you a different but closely related challenge for national security, which I call Grand Terrorism.

By Grand Terrorism I mean events a quantum more severe than the Oklahoma City bombing, the World Trade Center bombing, the activities of the Aum Shinrikyo cult, or the Khobar Towers attack: terrorist events, or attacks outside of the context of traditional war, involving nuclear, biological, or chemical weapons, cyber attack on society's vital control systems, other exploitation of critical infrastructure vulnerabilities, or threats to key personnel and institutions of government. Events of this type would not only cause unprecedented damage to life and property. They would also undermine the fundamental sense of security of Americans, their belief that this was a safe place to live, to make plans, to raise a family, to dream dreams. More insidiously, the failure of the authorities to prevent the attack, and their predictable inability to cope with carnage on such a scale, could well undermine constitutional order. This was the objective of Germany's terrorists of the 1970s and 1980s: to disgrace the established public order or to provoke the government into actions that would undermine its popular support. Finally, terrorism on this scale would invite greater conflict as copycats replicated an early "success" or as the angry search for the parties "responsible" widened and came to encompass whatever foreign contacts the perpetrators had (and, globalization proceeding apace, they will have had some, somewhere).

It is a reasonable prospect that the probability of Grand Terrorism is on the rise. One reason is the ease of access to technology, coupled with the increasing vulnerability of modern complex societies. Another is the existence of international networks of organized crime, drug trafficking, money laundering, and technology for sale. Then there is the existence of groups with unconventional or messianic motivations rather than the strictly political motivations which limit conventional terrorists to relatively small acts. Finally, there is the very superiority of the U.S. military itself in conventional terms, and the current position of unchallenged leadership of the United States in the world, which makes us a tempting target and means that our military can only be sidestepped by unconventional means.

The technology or materials of Grand Terrorism could be obtained in the U.S. or abroad -- or a mixture of both. The perpetrators could be American or foreign, state or sub-state -- or both at the same time. The motives could be domestic or international -- or both at the same time. The threat is therefore truly transnational, and transnational threats is the name that's been given to this summer's Defense Science Board study.

It is obvious that transnational threats force us to confront the division of policy and institutions between foreign and domestic. But the deeper issue for Grand Terrorism is the chasm between the national security and law enforcement paradigms. The former emphasizes aggressive intelligence, threat identification, campaign planning, deterrence, and anticipatory action; the latter constitutional protection, probable cause, and post-facto arrest and prosecution. The U.S. government only dimly perceives the threat of grand terrorism. Where awareness exists, the clash of paradigms stymies action.

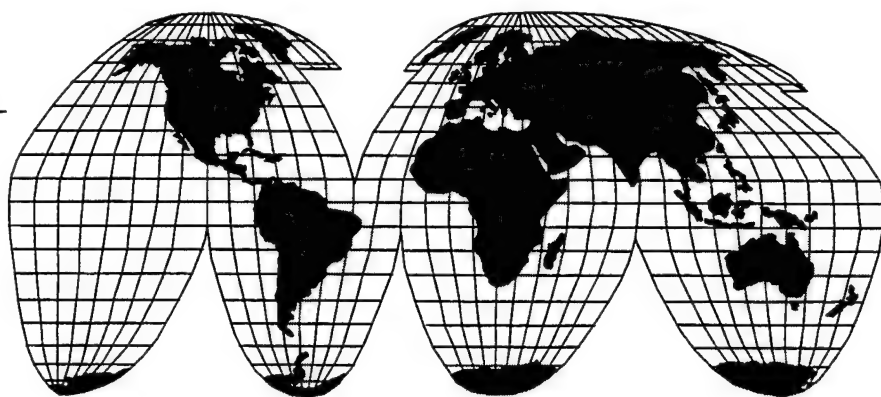
I would argue that DoD can and should show leadership in the U.S. government in combating Grand Terrorism. In the course of our counterproliferation effort, we will develop key technologies, techniques, and capabilities. For example, if we are successful in the Counterproliferation Initiative we will create not only a battlefield capability for dealing with nuclear, biological and chemical attack, but a capability for civil response to protect rear areas and points of entry into the theater. These capabilities can be brought to bear in instances of Grand Terrorism involving NBC.

Therefore much can and will be done at the margins of counterproliferation as we pursue our principal duty of deterring and winning wars. But we need to go beyond making available the capabilities we develop in counterproliferation to the national counterterrorist apparatus.

Counterterrorism is a national, not purely a defense, effort. It involves intelligence, law enforcement, diplomacy, emergency response, continuity of government, and first responders at the state and local level. DoD cannot aspire to the lead, but it can and should play a leadership role -- developing capability and an integrated strategy, and catalyzing a U.S. government effort that is greater than the sum of its parts.

I would commend to your attention five actions that DoD should take.

1. Preserve, defend, and advocate what we have that is successful and that contributes to combating Grand Terrorism; counterproliferation, our technical capability in biological warfare defense, such innovations as the Marine Corp's Chemical/Biological Incident Response Force, the Nunn-Lugar program, the Nunn-Lugar II program (should be put on a multi-year basis with a multi-year program plan and budget), and NSA's effort to combat cyber terrorism, among others.
2. Create a new focal point within the Department of Defense with an "enterprise fund," perhaps about \$100 million, to develop strategies and new technologies for dealing with Grand Terrorism and to field them, including by donation to other agencies.
3. Review DoD's current assignments of responsibility for capability building, policy coordination, and operations in the event of Grand Terrorism. There are several organizations at work, but they are at times rivalrous and none is currently positioned to make a quantum advance in our capabilities.
4. Actively seek the statutory authority to share capability generously with other agencies in a supporting role.
5. Catalyze a larger more focused U.S. government-wide effort to which the Department of Defense can donate its considerable capabilities.



Mr. John Sopko

Luncheon Address
30 July, 1997

Mr. John Sopko

Mr. John Sopko of the United States Department of Commerce spoke at the second luncheon for the 5th Annual INSS Topical Conference. In his presentation, Mr. Sopko described a new breed of terrorists and terrorism and echoed Dr. Ashton Carter's previous remarks that it is essential for agencies to work more closely together to deal with these terrorist threats.

Mr. Sopko began his discussion by describing the Aum Shinrikyo, a religious sect that recruited members to destroy the world through the development and use of weapons of mass destruction (WMD). Mr. Sopko suggested, had he described this sect's mission and activities five years ago, everyone would have thought it was science fiction. In fact, Mr. Sopko added that the initial Congressional response during hearings on Aum Shinrikyo was one of disbelief. However, the accounts proved correct over time.

Although chemical and biological weapons (CW/BW) terrorism is not new, it has recently become more prevalent on the national security level, Mr. Sopko said. Congressional hearings are focusing increasingly on the collapse of the Soviet Union, the spread of technology, dual-use technology transfers, and weapons grade materials smuggling. Mr. Sopko noted that such hearings indicate Congressional alarm over these new threats. He added, the disintegration of the Soviet Union gave U.S. policymakers a clearer picture of the vulnerability of Russian technology, WMD, and weapons grade materials. Realizing the potential market for WMD technologies and materials, Mr. Sopko suggested the United States learn more about organizations, particularly Russian organized crime, with access to these products.

Mr. Sopko then described a new set of terrorists and new kinds of terrorism. He explained that terrorist groups have expanded from political and religious groups to include ethnic groups, individuals, and organized crime. In his view, it has become increasingly difficult to pinpoint which individual or group has the will to commit a terrorist act.

In addition, the materials required to make CW/BW are readily available. Although these materials have been around for years, the ease of constructing deadly devices with them is relatively new. Furthermore, Mr. Sopko offered that new weapons delivery systems are available as well. For instance, a terrorist can simply use a truck to disperse BW.

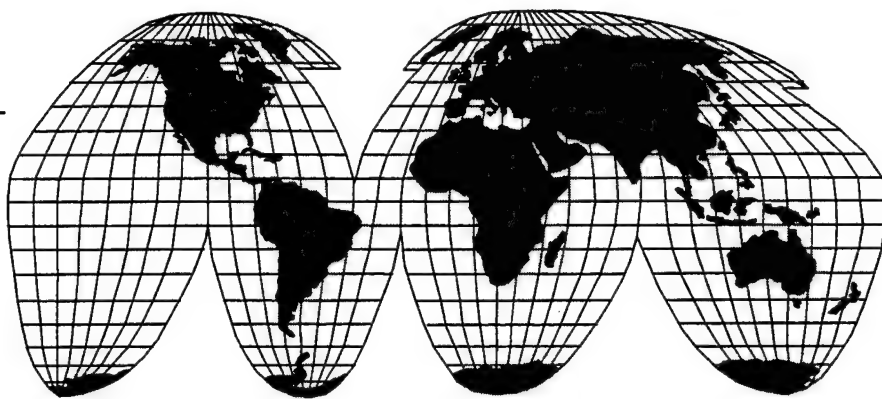
Mr. Sopko explained, the reasons behind using WMD have also changed. Terrorists today are less concerned about gaining public support, and as a result, terrorist

threats to local communities are increasing. They are less concerned today about killing a lot of people than they were several years ago.

Unfortunately, there is a distinct lack of coordination among U.S. agencies when addressing CW/BW concerns, Mr. Sopko noted. He explained that each agency views the problem differently, and emphasized that money drives policy. As an example, he described that the FBI has funds available to combat terrorism because terrorism is seen as a law enforcement issue. Mr. Sopko argued that funds should be available on the national security level as well.

As Dr. Ashton Carter mentioned in his presentation a day earlier, Mr. Sopko suggested the various agencies combine their efforts and share information in order to ensure consistency when dealing with CW/BW threats. The consequence of minimal interagency effort is that several terrorist groups are not on the "radar screen." In addition, Mr. Sopko stated that in order to effectively address potential terrorist threats, agencies cannot rely solely on indicators based on previous incidents.

In conclusion, Mr. Sopko stated that interagency groups must examine the foreign policy implications of organized crime as well as the potential motivations underlying terrorist acts. Moreover, Mr. Sopko suggested the United States examine the functions and responsibilities of such agencies as the FBI and the CIA. He explained, these agencies were created to respond to a Cold War threat. In light of this, their roles in a post-Cold War environment should be reviewed by an interagency group. Finally, Mr. Sopko said that agencies should ask more questions and coordinate with one another to better understand post-Cold War threats.



Keynote Address

Keynote Address
29 July, 1997

Dr. William J. Perry

Former Secretary of Defense William J. Perry presented the banquet address at the 5th Annual INSS Topical Conference. He articulated three major objectives during his term at the Department of Defense. They were: proper utilization of U.S. military forces; transformation of Pentagon management structure; and adaptation of U.S. national security strategy to address emerging challenges in the post-Cold War environment. Dr. Perry then elaborated each of these objectives.

In addressing the issue of force utilization, Dr. Perry explained that proper criteria regarding the use of force needed to be established. Moreover, a clear vision regarding the mission, as well as the size, structure, and rules of engagement (ROE) needed to be defined. Nearly all missions in the future would require short preparations and rapid response. Thus, it was implicit that regulations for the proper utilization of U.S. forces be established in order to avoid problems and delays during times of impending conflict.

One method of achieving force readiness was through peacetime training and maintenance. Dr. Perry explained that he had defined force readiness as a first priority for the military Services. This included ensuring that forward deployed forces throughout the world were prepared and ready for combat. The result of force readiness, along with clearly defined missions and the skills and discipline of U.S. military leadership, was a substantial reduction in the numbers of casualties during the past three years.

A second objective that was articulated by Dr. Perry as Secretary of Defense was that of management transformation. Under several key acquisition reform initiatives, the Department of Defense was able to reduce overhead spending so that more could be allocated towards acquisition of essential weapons and technologies. Moreover, under Dr. Perry's first acquisition reform program, a savings of approximately 50 percent was achieved. Since acquisition reform has become entrenched in the management structure of the Pentagon, the trend in overhead reductions is likely to continue in the coming years.

With respect to his third objective of redefining U.S. national security strategy in the post-Cold War environment, Dr. Perry explained that the United States is at a unique point in the nation's history: the United States faces no major threats to its survival and it is the dominant military force in the world.

However, some have argued that because the United States does not face major threats or challenges to its survival, it therefore, does not need to remain the dominant

military force in the world. Others have argued precisely the opposite: Because the United States is the preeminent military force in the world, it therefore, faces no major threats to its survival.

Dr. Perry cautioned against these over-simplified arguments. Instead, he advised examining the inter-relationship between the two events in order to continue this positive trend in U.S. national security. Dr. Perry also emphasized the importance of preventive defense in U.S. security policy. He explained that during the Second World War, the United States allocated virtually unlimited resources to the cause of ensuring victory for the Allies. Following the conclusion of World War II, the United States adopted the Marshall Plan to prevent the emergence of another world war. The Plan was partially successful in preventing the re-emergence of a hostile Germany and Japan. However, it failed to co-opt the participation of the former Soviet Union.

In the post-Cold War environment, the United States has returned to a policy of preventive defense that encompasses a spectrum of options including the Comprehensive Threat Reduction (CTR) Program, the Gore-Chernomyrdin Commission, the Partnership for Peace (PFP) initiative, military-to-military exchanges, the Marshall Center, and Russia's participation in the Implementation Force (IFOR), among others. One of the goals of preventive defense is to deter the realization of weapons of mass destruction (WMD) threats launched by regional adversaries.

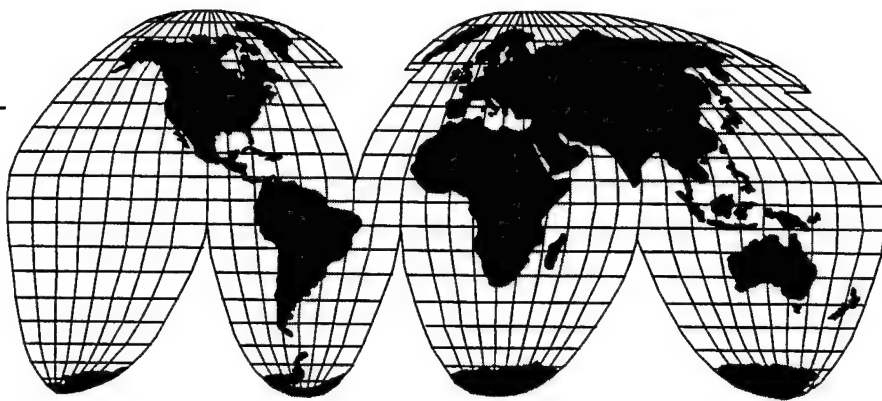
Dr. Perry cited North Korea's indigenous nuclear program as a realistic example of WMD threats posed by regional actors. In June of 1994, North Korea threatened to develop its own nuclear program. The United States was thus faced with two costly options: Permit North Korea to develop its own nuclear forces or risk conventional war in order to halt the North Korean nuclear program. Before President Bill Clinton arrived at the difficult decision of risking conventional warfare with North Korea, former President Jimmy Carter was able to negotiate an agreement with leaders of the DPRK. North Korea has abided by the U.S.-DPRK Agreement, which was signed in June 1994; thereby, ensuring that peace remained in the region.

Nevertheless, Dr. Perry advised that the deterrence of regional transgressors must remain an utmost priority in U.S. security planning, since regional WMD threats seldom result in peaceful agreements. Instead, deterrence through preventive defense mechanisms should be employed. If deterrence should fail, then the United States must win decisively and with minimal casualties.

In order to accomplish these objectives, Dr. Perry recommended developing a robust program to prevent the proliferation of WMD, as well as augmenting deterrence with defensive systems. He explained that the latest Quadrennial Defense Review (QDR) has given priority to preventive defense and readiness programs through the management of economies, including acquisition reforms and base closures.

The primary mission of the United States during the Cold War had been ensuring the survival of the nation. In the post-Cold War era, this mission remains unchanged. In order to maintain the survivability of the nation, the United States must develop a robust preventive defense program to deter regional proliferation of WMD. Previously, regional proliferants served as lesser included cases that did not shape U.S. force structure. In the new era, regional threats have emerged as the primary shaping factor. Thus, it is implicit that the United States remain the preeminent military leader in countering proliferation.

Dr. Perry concluded his remarks by posing an interesting question: Why should one be interested in national security strategy in light of political decision-making? He provided an illuminating answer through the following quotation: "War is too important to be left to the generals, and peace is too important to be left to the politicians."



Agenda



**DEPARTMENT OF THE AIR FORCE
USAF INSTITUTE FOR NATIONAL SECURITY STUDIES
USAF ACADEMY, COLORADO**



**The USAF Nuclear & Counterproliferation Directorate
&
Institute for National Security Studies'
5th Annual Topical Conference**

***COUNTERING THE PROLIFERATION AND
USE OF WEAPONS OF MASS DESTRUCTION***

National Defense University, Washington, DC, 29-30 July 1997

CONFERENCE AGENDA

TUESDAY, 29 JULY

0830-0900 Registration and morning snack at Marshall Hall (Room 155 A&B)

**0900-0930 Opening Remarks: Major General Thomas H. Neary (AF/XON)
 Lieutenant Colonel Pete Hays (INSS)**

Administrative Remarks

0930-1200 Panel 1 Chair: Lieutenant Colonel Pete Hays

**0930-1030 Mr. Robert Irvine (OSD/ISP), presenting for Dr. Mitchel B. Wallerstein
 (Director, OSD/ISP Counterproliferation Policy)
 The Origins and Development of the Defense Counterproliferation Initiative
 Dr. Brad Roberts (Institute for Defense Analyses)
 Denial
 Dr. Peter Lavoy (Naval Postgraduate School), presenting for Ambassador
 Ronald F. Lehman (Lawrence Livermore National Laboratory)
 *Reassurance and Dissuasion***

1030-1045 Break

- 1045-1200** *Discussants and audience questions*
Mr. Henry Sokolski (Nonproliferation Policy Education Center)
Dr. Janne Nolan (The Brookings Institution)
Mr. Leonard Spector (Carnegie Endowment for International Peace)
- 1200-1330** **Lunch**
Featured Speaker: Dr. Ashton Carter (Kennedy School of Government)

1330-1600 Panel 2 Chair: Major Alan Van Tassel

- 1330-1430** **General (Ret) James P. McCarthy** (US Air Force Academy)
Actions to Reverse Proliferation: Voluntary Reversal
Dr. David A. Kay (Science Applications International Corporation)
Actions to Reverse Proliferation: Involuntary Reversal
Mr. Paul I. Bernstein & Dr. Lewis A. Dunn (SAIC)
Deterrence
- 1430-1445** **Break**
- 1445-1600** *Discussants and audience questions*
Dr. Matthew McKinzie (Natural Resources Defense Council)
Dr. Kathleen Bailey (Lawrence Livermore National Laboratory)
Dr. Victor Utgoff (Institute for Defense Analyses)
- 1600-1630** **Conclusion of First Day**
- 1900-2120** **Reception and Dinner at Ft McNair Officers' Club**

Keynote Address
Featured Speaker: Dr. William J. Perry (Stanford University)

WEDNESDAY, 30 JULY

- 0830-0900** **Arrival and morning snack at Marshall Hall (Room 155 A&B)**
- 0900-1215 Panel 3 Chair: Lieutenant Colonel Jim Player**
- 0900-1020** **Ambassador Robert G. Joseph & Dr. John Reichart** (National Defense University)
NBC Military Planning Lessons Learned from Analysis and Wargaming
Ambassador Henry F. Cooper (Chairman, High Frontier)
Active Defense

Dr. Robert Kadlec and Colonel Randall J. Larsen (OSD/ISP)
Passive Defense
General (Ret) Charles A. Horner
Counterforce

1020-1035 Break

1035-1215 *Discussants and audience questions*
Dr. Roger Molander (The RAND Corporation)
Dr. Keith Payne (National Institute for Public Policy)
Dr. Barry Schneider (Air War College)
Dr. Thomas A. Keaney (National War College)

1215-1330 Lunch
Featured Speaker: Mr. John Sopko (United States Department of Commerce)

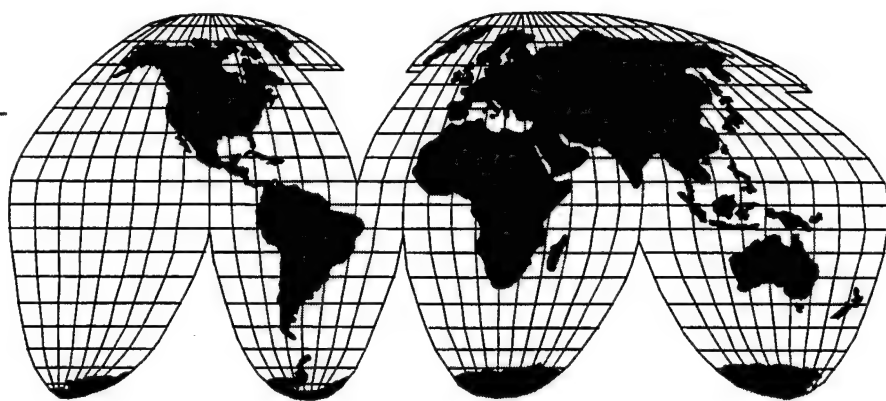
1330-1600 Panel 4 Chair: Major Vincent J. Jodoin

1330-1430 General (Ret) Wayne A. Downing
Measures to Counter Paramilitary, Covert, and Terrorist Threats
Major General John P. Casciano & Ms Caryn A. Leslie (AF/XOI & NAIC)
Intelligence Challenges
Lieutenant Colonel Jeffrey A. Larsen & Colonel Guy B. Roberts (INSS & SOUTHCOM)
International Cooperation

1430-1445 Break

1445-1600 *Discussants and audience questions*
Dr. Richard Falkenrath (Harvard University)
Mr. Doug MacEachin (Harvard University)
Lieutenant General (Ret) James Terry Scott (Harvard University)

1600-1630 Concluding Remarks: Major General Thomas H. Neary (AF/XON)
Lieutenant Colonel Pete Hays (INSS)



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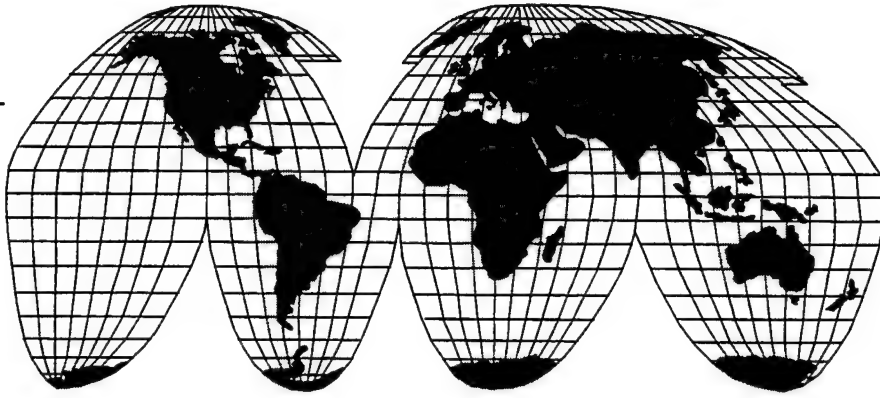
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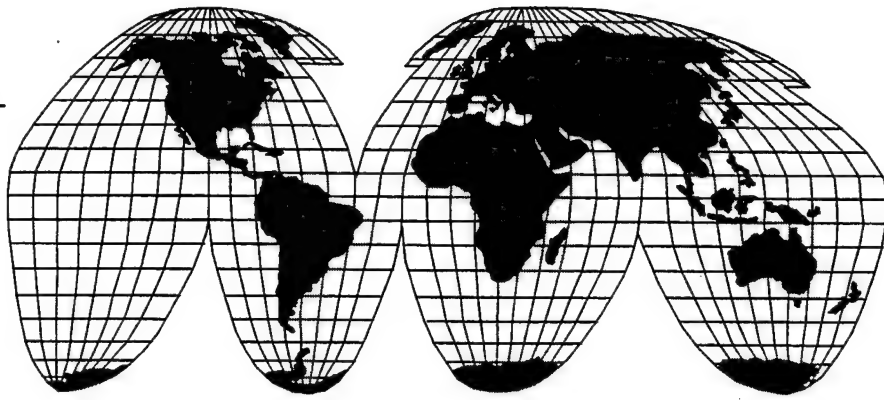
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Letter of Invitation



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Dear XXXXX

It is my pleasure to invite you or your representative to attend the Headquarters Air Force National Security Studies Conference, "Countering the Proliferation and Use of Weapons of Mass Destruction," to be held 29-30 July 1997 at National Defense University in Washington, DC. The conference is being sponsored jointly by the Headquarters Air Force Policy Division (AF/XONP) and the USAF Institute for National Security Studies (INSS). The purpose of this conference is to examine the proliferation of weapons of mass destruction and to focus on how the United States and the Department of Defense might best respond to the security challenges posed by WMD proliferation.

The conference is organized around presentations by the chapter authors in the forthcoming book *Countering the Proliferation and Use of Weapons of Mass Destruction*. This book has been designed to flesh out the "response" portion of the *Proliferation: Threat and Response* report released by the Secretary of Defense in April 1996. The book will be divided into four panels for purposes of the conference. Following the chapter authors' presentations, invited discussants will present prepared comments based on their review of drafts of the chapters.

The conference will be held in Marshall Hall (Bldg. No. 62) of National Defense University, located at 300 5th Avenue, Fort Leslie J. McNair, Washington, DC. It will begin at 0830 on Tuesday, 29 July and will conclude by 1630 on Wednesday, 30 July. Participants are asked to convene in Rooms 155 A & B in Marshall Hall on both 29 & 30 July. For your convenience, a list of conference participants will be provided to security personnel at the main gate of Ft McNair as well as to security guards inside Marshall Hall. Please reference the "Air Force INSS" conference when entering Ft McNair and Marshall Hall.

Morning and afternoon snacks and refreshments will be provided on 29 & 30 July. A buffet-style lunch has been arranged in the Crystal Ballroom at the Ft McNair Officer's Club on both days. In addition, lunch on 29 July will feature a presentation by Former Assistant Secretary of Defense for International Security Policy Ashton Carter.

A reception and dinner will be held on the evening of 29 July beginning at 1845 in the Crystal Ballroom of the Ft McNair Officer's Club. The dinner will feature a keynote address by former Secretary of Defense William J. Perry. A fee of \$75.00 will be charged to cover administrative expenses to include the cost of the lunches on 29 & 30 July and the banquet on 29 July. Please bring either a check or cash which will be collected on the morning of 29 July. All checks should be made payable to Mr Stan Kowalski of Science Applications International Corporation who will handle all conference fees.

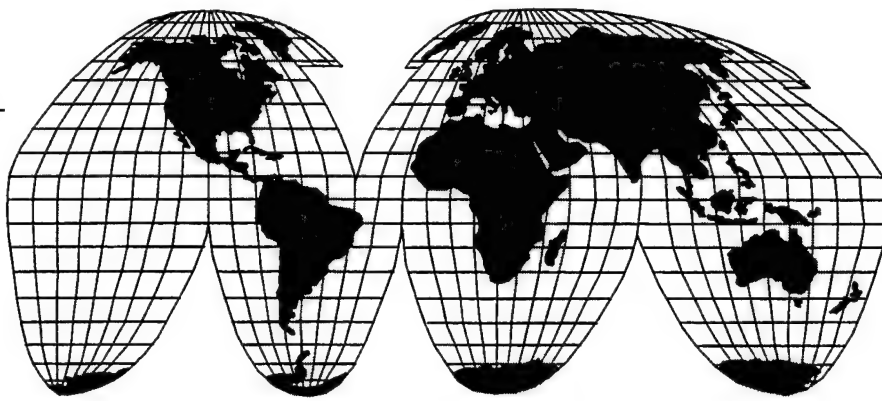
Please be advised that the Air Force has reserved a block of 40 rooms (first come-first served until 11 July) for out-of-town participants at the Courtyard Marriott, 2899 Jefferson Davis Highway, in Crystal City. An approved U.S. Government rate of \$112.98 per person, per night, not including taxes, has been negotiated. To reserve your room, please contact the Courtyard Marriott Hotel no later than 11 July 1997 at 1-800-847-4775 or 703-549-3434, and please reference the "Air Force INSS" conference when making your reservations. More details on the logistics for the conference and a registration form are provided as attachments to this letter.

I sincerely hope that you are able to join us. The chapter authors represent many of the key players in the development of DOD's counterproliferation strategy and they are exceptionally well qualified to discuss this issue. The conference promises to be an interesting, challenging, and stimulating experience. Please contact Stan Kowalski (703-556-7117) or Jennifer Williams (703-734-5822) of Science Applications International Corporation by 14 July 1997 to confirm your attendance. I hope to see you in July.

THOMAS D. MILLER, Colonel, USAF
Chief, Policy Division
Directorate of Nuclear & Counterproliferation,
DCS/OPS

Attachments

1. Conference agenda
2. NDU facility information
3. Hotel information
4. Registration form



Conference Registration Form

**DEPARTMENT OF THE AIR FORCE
USAF INSTITUTE FOR NATIONAL SECURITY STUDIES
USAF ACADEMY, COLORADO**

5TH ANNUAL TOPICAL CONFERENCE

29-30 July 1997

REGISTRATION FORM: Mr. XXXXXX

Banquet on 29 July, McNair Officer's Club, Crystal Ballroom

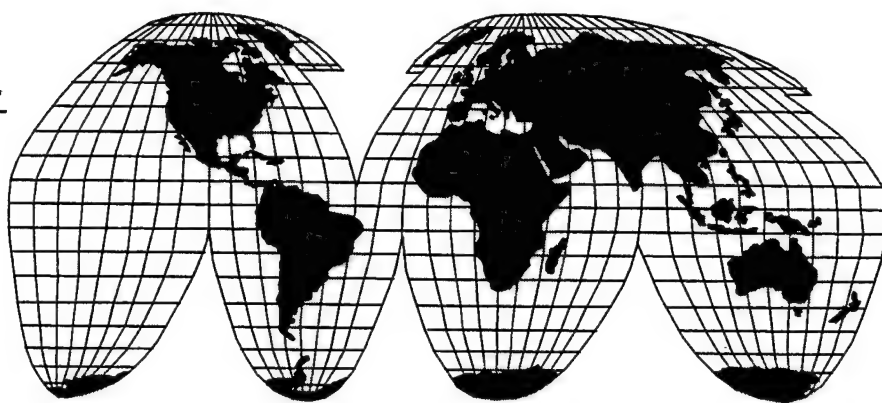
Menu Selection: Please select one:

Prime Rib
Fresh Atlantic Salmon
Vegetarian

All dinners include fresh baked bread, Market Salad, seasonal fresh vegetables, and your choice of baked potato or rice. Drinks (Coffee, Tea, and Decaf) are included as well as your choice of Chocolate Framboise Cake or Cheesecake. A cash bar will be available.

**Please return the completed registration form no later than 14 July, 1997 to:
Jennifer Williams
SAIC
Fax: 703-760-0911
Phone: 703-734-5822**

Please note that you will receive a receipt from INSS at the conference. Also, dress for the conference is business attire for civilians, uniform of the day for military personnel. Dress for the banquet is coat and tie for all participants.



Conference Map

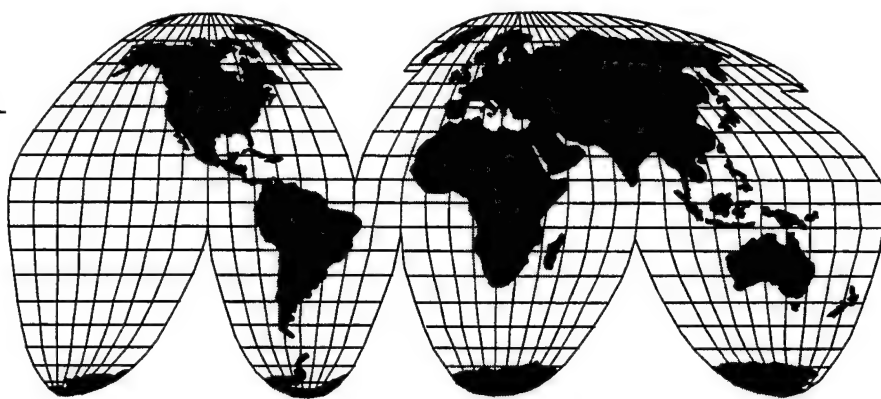
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- NATIONAL WAR COLLEGE
- NDU HILL CONFERENCE
- WAR GAMING AND SIMULATION CENTER

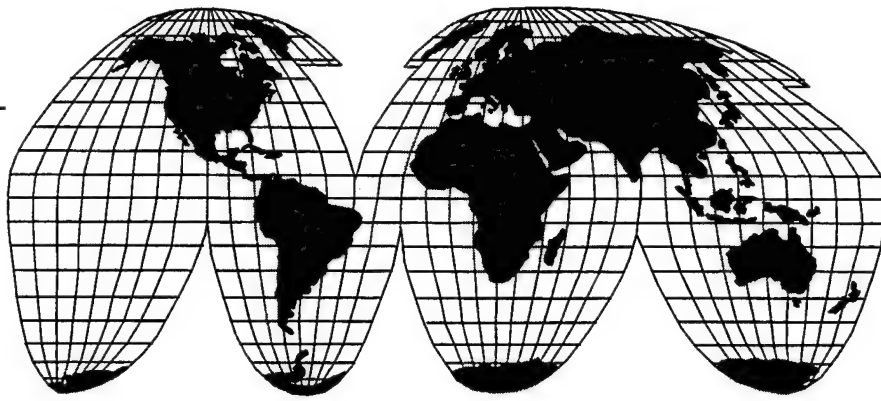


- INDUSTRIAL COLLEGE OF THE ARMED FORCES
- CAPSTONE COURSE
- INTERNATIONAL FELLOWS PROGRAM

- OFFICE, PRESIDENT NDU
- NDU LIBRARY
- NDU STAFF (JM, LG, PAD, ETC)
- INSTITUTE OF NATIONAL STRATEGIC STUDIES
- INFORMATION RESOURCES MANAGEMENT COLLEGE
- NATO STAFF ORIENTATION COURSE



Appendices



Appendix A

Biographies of Authors

About the Contributors

Paul I. Bernstein is a Senior Analyst on the staff of the National Security Studies and Strategies Group of Science Applications International Corporation (SAIC). He specializes in proliferation, nuclear policy, and regional security issues, and works closely with DoD organizations with responsibilities in these areas. Mr Bernstein is also involved in efforts to enhance awareness of WMD issues in the professional military education community, and teaches classes on proliferation-related topics at the Naval War College and the Defense Nuclear Weapons School. He holds an M.A. from Columbia University.

John P. Casciano, Major General Casciano is Director for Intelligence, Surveillance, and Reconnaissance on the Air Staff (HQ USAF/XOI). He is the Air Force's senior intelligence officer, responsible for more than 25,000 officer, enlisted, and civilian intelligence professionals. Prior to his current position, the General served in many senior staff positions including: as Commander of the Air Intelligence Agency, as Assistant Chief of Staff for Intelligence on the Air Staff, and as Deputy Chief of Staff for Intelligence at Headquarters Air Combat Command. The General holds M.A. and B.S. degrees from Georgetown University, and has completed a number of professional military education courses including the Joint Flag Officer Warfighting Course, Harvard University's Program for Senior Executives in National and International Security, CAPSTONE, and NATO Defense College.

Henry F. Cooper is Chairman of High Frontier, Chairman of Applied Research Associates, Senior Associate of the National Institute for Public Policy, and Visiting Fellow at the Heritage Foundation. During the Bush Administration, Ambassador Cooper served as Director of the Strategic Defense Initiative Organization (now called the Ballistic Missile Defense Organization). During the Reagan Administration, he served as Ambassador and Chief U.S. Negotiator at the Geneva Defense and Space Talks, Assistant Director of the Arms Control and Disarmament Agency, and Deputy Assistant Secretary of the Air Force. Ambassador Cooper holds bachelor's and master's degrees from Clemson University and a Ph.D. from New York University, all in mechanical engineering.

Wayne A. Downing retired from the U.S. Army as a general after a thirty-four career. He served two combat tours in Vietnam, commanded all special operations forces during the invasion of Panama in 1989, and commanded a joint special operations task force operating deep behind Iraqi lines during Operation Desert Storm. His military career culminated with his appointment as Commander-in-Chief of the U.S. Special Operations Command. Since retirement from the Army, General Downing was appointed by the Secretary of Defense to head an assessment of the terrorist attack on the U.S. base at Khobar Towers, Saudi Arabia, and to make recommendations on how to protect people and facilities worldwide from terrorist attack. The General's military awards and decorations include: the Defense Distinguished Service Medal with oak leaf cluster, the Silver Star with oak leaf cluster, the Master Free Fall Parachutist Badge, the Ranger Tab,

and the Purple Heart. He is a graduate of the U.S. Military Academy and has an M.B.A. from Tulane University.

Lewis A. Dunn is Corporate Vice President and Manager of the Weapons Proliferation and Strategic Planning Operation of Science Applications International Corporation (SAIC). He holds a Ph.D. from the University of Chicago. Before going to SAIC, Dr. Dunn was an assistant director of the U.S. Arms Control and Disarmament Agency and served as Ambassador to the 1985 Nuclear Non-Proliferation Treaty Review Conference and the 1987 United Nations Conference on the Peaceful Uses of Nuclear Energy. Dr. Dunn has written or edited numerous books and articles on nonproliferation, national security, and arms control. His most recent book is *Arms Control: What Next?*

Charles A. Horner General, USAF, (Ret.), completed his 37 year career in 1995. His last position was as Commander in Chief of North American Aerospace Defense Command and the U.S. Space Command. General Horner commanded all U.S. and allied air operations as the Joint Task Force Air Component Commander during Operations Desert Shield and Desert Storm. A Command Pilot with over 5,300 hours in a variety of fighter aircraft including F-16s, F-15s, and F-4s, the General also flew over 130 combat missions in Indochina and has commanded wings, air divisions, and Ninth Air Force. The General is a graduate of the University of Iowa, and has professional military education degrees from the Armed Forces Staff College, the Industrial College of the Armed Forces, and the National War College.

Robert B. Irvine, Jr. serves as Director, Counterproliferation Analysis and Response, under the Deputy Assistant Secretary of Defense for Counterproliferation Policy, Office of Assistant Secretary of Defense, International Security Policy. Assuming this position in February 1996, he is responsible for formulating policy to deal with threats associated with the proliferation of nuclear chemical and biological weapons and their delivery means. His office develops policies, strategy, and doctrine related to national, alliance and coalition efforts related to detecting, protecting, defending, denying and responding to the use of NBC weapons during crisis and conflict. His duties also include defense policy related to trafficking of NBC weapon-related technologies, as well as the use of such weapons for terrorism. From July 1989 to August 1994, he was involved with NATO nuclear issues as Assistant for Theater Nuclear Forces Policy in OASD/ISP, including authoring the *Political Principles for Nuclear Planning and Consultation*, NATO's principal nuclear policy document. Mr Irvine retired from the Air Force as a colonel on 1 April 1993.

Robert G. Joseph is currently Director of the NDU Counterproliferation Research Center and Professor of National Security Policy at the National War College. He has held the positions of U.S. Commissioner to the Standing Consultative Commission (ABM Treaty) and U.S. Representative to the Bilateral Consultative Commission (U.S.-Russia nuclear testing). He is also a former Principal Deputy for International Security Policy and Deputy Assistant Secretary of Defense for Nuclear Forces and Arms Control Policy.

Ambassador Joseph holds a Ph.D. from Columbia University and an M.A. from the University of Chicago.

Robert Kadlec is a physician assigned to the Office of the Secretary of Defense for International Security Policy as a senior assistant for counterproliferation. A specialist in biological warfare issues, he is a distinguished graduate of the U.S. Air Force Academy. He holds a doctor of medicine and a master's degree of Tropical Medicine and Hygiene from the Uniformed Services University of Health Sciences. He also holds a master's degree in national security studies from Georgetown University.

David A. Kay is a vice president of Science Applications International Corporation (SAIC) and Manager of the Special Studies Division, where he leads SAIC's efforts to support the U.S. government's counterterrorism initiatives and efforts to prevent the proliferation of weapons of mass destruction. He holds a Ph.D. in international affairs from Columbia University. Before going to SAIC, Dr. Kay was Secretary General of the Uranium Institute in London, England. Prior to that, he served as Deputy Leader of the Iraqi Action Team of the International Atomic Energy Agency in Vienna, Austria. In that capacity, he was Chief Inspector for three inspections to determine Iraqi nuclear weapons production capability following the end of the Gulf War and led teams that found and identified the scope and extent of Iraqi uranium enrichment activities, located the major Iraqi center for the assembly of nuclear weapons, and seized large amounts of documents on the Iraqi nuclear weapons program.

Jeffrey A. Larsen, Lieutenant Colonel, U.S. Air Force, is Senior Research Fellow at the U.S. Air Force Institute for National Security Studies located at the U.S. Air Force Academy. Prior to that, he was a senior associate professor of national security studies and Director of the Institute for National Security Studies. The author of numerous reports and monographs on national security topics, Colonel Larsen is also a contributing coeditor of *Arms Control: Toward the 21st Century*. He holds a Ph.D. in politics from Princeton University.

Randall J. Larsen, Colonel, U.S. Air Force, is the Commander of the 89th Operations Group at Andrews AFB, MD. The 89th is responsible for the worldwide airlift of all top ranking civilian and military government officials and includes presidential airlift support on Air Force One.

Peter R. Lavoy is Assistant Professor in the Department of National Security Affairs at the Naval Postgraduate School. Prior to taking this position in 1993, he worked as a Research Fellow at the Center for Security and Technology Studies at Lawrence Livermore National Laboratory and at the Center for International Security and Arms Control at Stanford University. At the Naval Postgraduate School, Professor Lavoy teaches graduate courses and supervises Master's theses on nuclear strategy, WMD proliferation and nonproliferation, conventional arms transfers, South Asian security issues, and other topics in international relations. His primary research interests include the causes and strategic consequences of various types of weapons proliferation, U.S.

nuclear policy, and the political and strategic affairs of India and Pakistan. Professor Lavoy received his Ph.D. in Political Science at the University of California, Berkeley in May 1997. Professor Lavoy's publications include "Nuclear Arms Control in South Asia" in *Arms Control Towards the 21st Century*.

Ronald F. Lehman is currently the Director for the Center for Global Security Research, Lawrence Livermore National Laboratory, Livermore, Calif. He recently chaired the advisory panel for the Project on Countering Proliferated Weapons of Mass Destruction for the Congressional Office of Technology Assessment, and was appointed by President Clinton to the President's Advisory Board on Arms Proliferation Policy. Ambassador Lehman is a former director of the U.S. Arms Control and Disarmament Agency.

Caryn A. Leslie, is currently assigned to the National Air Intelligence Center at Wright-Patterson AFB, where she works in the National Policy Integration Division. This follows her completion of a tour as an interdiction officer at the Director of Central Intelligence's Nonproliferation Center. She is an adjunct faculty member of the Joint Military Intelligence College Wright-Patterson campus. Ms. Leslie has authored numerous studies on scientific and technical intelligence topics relevant to national security. She holds both a B.S.E.E. and an M.S. in electrical engineering from Oklahoma State University, and has completed the Post Graduate Intelligence Program.

James P. McCarthy is a retired U.S. Air Force general and Olin Professor of National Security Studies at the U.S. Air Force Academy. He also serves as a member of the National Defense Panel, and the Defense Policy Board, co-chaired the Defense Science Board Task Force on Information Architecture for the Battlefield, and serves as a member of other boards and councils. General McCarthy retired from the Air Force after 35 years of service. His last assignment was as Deputy Commander in Chief, European Command, where he was responsible for all U.S. forces in Europe. He holds a master's degree in international affairs from George Washington University and graduated from the Industrial College of the Armed Forces and the National War College. A number of his writings and lectures have been published in a variety of journals in both English and Spanish.

William J. Perry is the Michael and Barbara Berberian Professor at Stanford University (a joint appointment in the Department of Engineering-Economic Systems and Operations Research, and the Institute for International Studies). Dr Perry was the 19th Secretary of Defense, serving from February 1994 to January 1997. Previously, he was Deputy Secretary of Defense (1993-94) and Under Secretary of Defense for Research and Engineering (1977-81). Dr Perry also has a wide range of academic and business experience including: Professor and Co-Director of Stanford's Center for International Security and Arms Control, Laboratory Director for GTE, President of ESL, Executive Vice President of Hambrecht & Quist, and Chairman of Technology Strategies & Alliances. He received his B.S. and M.S. degrees from Stanford and holds a Ph.D. from Penn State, all in mathematics. Dr Perry's many awards include the Presidential Medal of Freedom and the Department of Defense Distinguished Service Medal.

John Reichart is currently Deputy Director of the Center for Counterproliferation Research at National Defense University. Prior to assuming his duties at NDU (which include teaching at the National War College), Dr. Reichart served for 6 years on the Policy Planning Staff, Department of State, where he was responsible for European security policy and global political/military issues. He has served at the U.S. Mission to NATO and as an Associate Professor in the Political Science Department at the USAF Academy. A retired USAF Colonel, Dr Reichart was the editor of the fifth edition of *American Defense Policy*.

Brad Roberts is a member of the research staff at the Institute for Defense Analyses in Alexandria, Virginia. He participates in studies of proliferation, nonproliferation, and counterproliferation issues for the Department of Defense. He is also chairman of the research advisory council of the Chemical and Biological Arms Control Institute (CBACI), and adjunct professor at George Washington University, a consultant to the Los Alamos National Laboratory (LANL), and a member of the board of the U.S. Committee of the Council for Security Cooperation in the Asia-Pacific (CSCAP). From 1986 to 1995 he served as editor of the *Washington Quarterly* and as a research fellow at the Center for Strategic and International Studies (CSIS). Recent publications include *Weapons Proliferation and World Order After the Cold War* and *Terrorism With Chemical and Biological Weapons: Calibrating Risks and Responses*. Dr Roberts holds a bachelor's degree from Stanford University, a master's degree from the London School of Economics and Political Science, and a doctorate from Erasmus University, Rotterdam.

Guy B. Roberts, Colonel, U.S. Marine Corps, is Staff Judge Advocate for the Second Marine Division at Camp Lejeune, NC. Prior to that, he was assigned to the Strategic Plans and Policy Directorate of the Joint Staff where he served as the Joint Staff representative to arms control discussions on biological warfare, nuclear arms, and disarmament issues at the United Nations, the Conference on Disarmament in Geneva, and the International Atomic Energy Agency in Vienna. In addition to law degrees from the University of Denver and Georgetown Law School, Colonel Roberts has a master's degree in international relations from the University of Southern California and graduated with highest distinction from the Naval War College. His articles on terrorism, the laws of war, arms control, and military justice have appeared in numerous military and legal journals. He was named the USAF Institute for National Security Studies' Outstanding Researcher for his paper *Five Minutes Past Midnight: The Clear and Present Danger of Nuclear Weapons Grade Fissile Materials*.

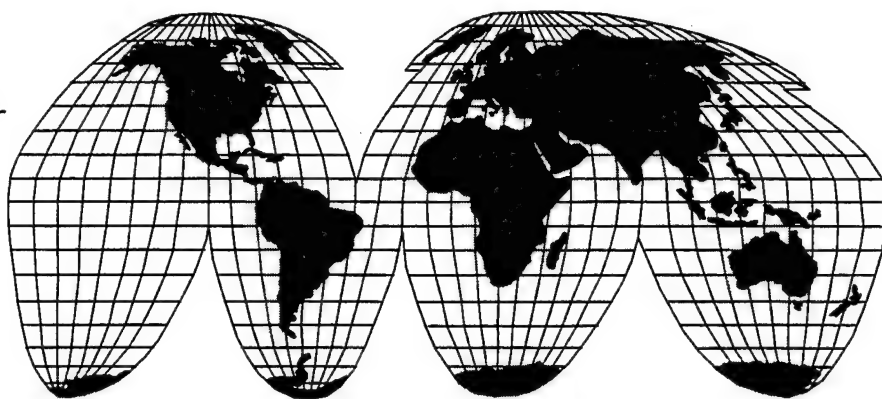
Mitchel B. Wallerstein currently serves as Deputy Assistant Secretary of Defense for Counterproliferation Policy. Prior to joining the Department of Defense, he was the Deputy Executive Officer of the National Research Council of the National Academy of Sciences. Dr Wallerstein also teaches at the Johns Hopkins University School for Advanced International Studies and at the Georgetown University School of Foreign Service. He holds a Ph.D. and M.S. from M.I.T., a Masters from the Maxwell School of Public Affairs at Syracuse University, and an A.B. from Dartmouth College.

About the Editors

Peter L. Hays, Lieutenant Colonel, U.S. Air Force, is an associate professor of political science and Director of the U.S. Air Force Institute for National Security Studies located at the U.S. Air Force Academy. He holds a Ph.D. in international relations from the Fletcher School of Law and Diplomacy at Tufts University and a master's degree in defense and strategic studies from the University of Southern California. A 1979 honor graduate of the U.S. Air Force Academy, Colonel Hays is a command pilot with over three thousand hours of flying time, primarily in the C-141 Starlifter. He was formerly chief of the international relations and defense policy division in the Academy's department of political science. Colonel Hays has focused his studies and research on U.S. military space policy by developing an Air Force Academy course on space policy, serving as a research assistant for the Office of Science and Technology Policy and the National Space Council, and writing a dissertation on U.S. military space doctrine. He is a coeditor and contributing author for the seventh edition of *American Defense Policy*.

Vincent J. Jodoin, Major, U.S. Air Force, is Deputy Director of the U.S. Air Force Institute for National Security Studies located at the U.S. Air Force Academy. He holds a Ph.D. in nuclear engineering from the Air Force Institute of Technology and a master's degree in electrical engineering from the California State University at Fresno. A 1985 ROTC graduate of Rensselaer Polytechnic Institute, he is a registered professional engineer. Before his assignment to the INSS, he was an assistant professor and Director of Operations in the Department of Physics at the U.S. Air Force Academy. Prior to that, he was a nuclear science and technology analyst supporting nuclear treaty monitoring for the Air Force Technical Applications Center. Major Jodoin also worked as an aircraft systems test engineer for Strategic Air Command.

Alan R. Van Tassel, Major, U.S. Air Force, is a political-military affairs officer assigned to the Strategic Relations Directorate at the Ballistic Missile Defense Organization. He holds a Ph.D. in government and politics from the University of Maryland and a master's degree in political science from Wichita State University. Prior to his current assignment, Major Van Tassel was an associate professor of political science and Deputy Director of the U.S. Air Force Institute for National Security Studies at the U.S. Air Force Academy. Originally a launch control officer for intercontinental ballistic missiles, Major Van Tassel also has worked as a research assistant for the Office of the Secretary of Defense, U.S. Space Command, and the Air Staff. He is a coeditor and contributing author for the seventh edition of *American Defense Policy*.



Appendix B

Biographies of Discussants

About the Discussants

Kathleen Bailey is a Senior Fellow on the staff of the Director of Lawrence Livermore National Laboratory. She conducts research on national security, arms control, and proliferation issues. Previously, she has held several positions, including: Assistant Director of the US Arms Control and Disarmament Agency, Deputy Assistant Secretary in the US Department of State's Bureau of Intelligence and Research, and head of the Office of Research in the US Information Agency. She has authored three non-fiction books—*Doomsday Weapons in the Hands of Many: The Arms Control Challenge of the 90s*, *Strengthening Nuclear Nonproliferation*, and *The UN Inspections in Iraq: Lessons for On-Site Verification*—as well as a fiction novel about biological weapons use by terrorists, *Death For Cause*.

Ashton B. Carter is the Ford Foundation Professor of Science and International Affairs at Harvard University. From 1993 to 1996 Dr. Carter served as assistant secretary of defense for international security policy, and was responsible for national security policy concerning the states of the former Soviet Union (including their nuclear weapons and other weapons of mass destruction), arms control, countering proliferation worldwide, and oversight of the US nuclear arsenal and missile defense programs. He was twice awarded the Department of Defense Distinguished Service Medal, the highest award given by the Pentagon. Before his government service, Carter was director of the Center for Science and International Affairs in the Kennedy School and chairman of the editorial board of *International Security*. Carter received a doctorate in theoretical physics from Oxford University, where he was a Rhodes Scholar. In addition to authoring numerous scientific publications and government studies, Dr. Carter has co-edited and co-authored a number of books, including *Cooperative Denuclearization: From Pledges to Deeds*; *A New Concept of Cooperative Security*; and *Beyond Spinoff: Military and Commercial Technologies in a Changing World*.

Richard A. Falkenrath is the Executive Director of the Belfer Center for Science and International Affairs, Harvard University. He is the co-author of *Avoiding Nuclear Anarchy: Containing the Threat of Loose Russian Nuclear Weapons and Fissile Material*. His recent research has focused on combating covert nuclear, biological, and chemical (NBC) threats, US-European cooperation on proliferation issues in the Middle East, the US-Russian highly enriched uranium (HEU) purchase agreement, and the adaptation of the CFE Treaty. Dr. Falkenrath is a consultant to the RAND Corporation, and a member of the International Institute for Strategic Studies, the American Economic Association, the Council on Foreign Relations, and the American Council on Germany. He is a consultant to the Defense Science Board, working on a summer study on transnational threats. He holds a Ph.D. from the Department of War Studies, King's College London, where he was a British Marshall Scholar. His third book, tentatively entitled *NBC Terrorism and Unconventional Delivery*, will be published in early 1998.

Thomas A. Keaney is a Professor of Military Strategy at the National War College, Washington, DC and director of its core course on Military Thought and Strategy. During 1991 and 1992 he performed research on and co-authored *Gulf War Air Power Survey*. He was co-author of two reports of that survey, *The Summary Report* and *The Effects and Effectiveness of Air Power*. He is also author of *Strategic Bombers and Conventional Weapons: Air Power Options*. His most

recent publication is Thomas A. Keaney and Eliot A. Cohen, *Revolution in Warfare?: Air Power in the Persian Gulf*. He is a graduate of the National War College. He holds a B.S. from the US Air Force Academy and M.A. and Ph.D. degrees in history from the University of Michigan. During a career in the US Air Force, he served in positions including: associate professor of history at the US Air Force Academy; planner on the Air Staff; forward air controller in Vietnam; and B-52 squadron commander. He retired as a colonel in 1991.

Douglas J. MacEachin is currently an Officer in Residence and National Security Fellow at Harvard University's John F. Kennedy School of Government. Before taking that position, he served from March 1993 through June 1995 as CIA's Deputy Director for Intelligence, overseeing all of the Agency's all-source analysis. Mr MacEachin joined the CIA in 1965; most of his career was devoted to research and analysis of Soviet and European military forces and security policies, and he was Director of the CIA's Office of Soviet Analysis from 1984 until March 1989. In the early 1980s he was Director of the office that ran CIA's 24-hour Operations Center and prepared the daily current intelligence products for the President and other senior US policy officials. Mr MacEachin was engaged in full-time support to US arms control efforts. From March 1989 through February 1993 he was Chief of the Intelligence Community's Arms Control Intelligence Staff. In this capacity Mr MacEachin was a regular participant in the design and negotiation of US positions in START I and II, the CFE and CSCE agreements and the Chemical Weapons Convention.

Matthew McKinzie is currently a Project Scientist in the Nuclear Group of the Natural Resources Defense Council. He received a Ph.D. in experimental nuclear physics from the University of Pennsylvania in 1995, with most of his dissertation research conducted at the Los Alamos National Laboratory. From 1995 until May 1997 Dr. McKinzie was a postdoctoral associate at the Peace Studies Program, Cornell University, where his research focused on the Comprehensive Test Ban Treaty. He has published in the fields of arms control, nuclear physics, and nuclear astrophysics.

Roger Molander has worked at RAND since 1989, principally in the areas of nuclear counterproliferation and strategic information warfare. He led the development of RAND's "Day After..." gaming methodology for exploring new strategic warfare problems. Dr. Molander was a member of the National Security Council staff at the White House from 1974 through 1981 where his principal area of responsibility was strategic nuclear arms control. Prior to joining the NSC staff he was employed in OSD (DDR&E) and the Institute for Defense Analyses. In 1981 he founded and for two years led GROUND ZERO, a foundation-funded organization committed to better public education on nuclear war-related issues where he authored a best selling nuclear war primer (450,000 copies in print). He has a Ph.D. in engineering science and nuclear engineering from the University of California at Berkeley.

Janne Nolan is a Senior Fellow at the Brookings Institution and an Adjunct Professor at Georgetown University. Her areas of expertise include arms control and weapons proliferation, nuclear force planning, strategic defense, Third World defense policy and Congressional/Executive defense decision-making. Dr. Nolan is currently a member of the National Defense Panel of the Quadrennial Defense Review and a member of the Secretary of

Defense's Policy Board, the DCI's Non-Proliferation Advisory Panel, the Board of Distinguished Advisors for Sandia National Laboratories, the Council on Foreign Relations, and the Aspen Strategy Group. She also serves on the Boards/Committees of the International Institute for Strategic Studies, the Arms Control Association, the Atlantic Council, the Foreign Service Council, and the Institute for Foreign Policy Analysis. She holds Ph.D. and Masters degrees from the Fletcher School of Law and Diplomacy. Nolan is currently working on a book entitled *An Elusive Consensus: Nuclear Weapons and American Politics After the Cold War*.

Keith Payne is President and Founding Research Director at the National Institute for Public Policy. He specializes in US, European, and Russian defense policies, deterrence theory and policy, military history, proliferation, international security affairs, geopolitics, and arms control. Dr. Payne serves as Adjunct Professor at Georgetown University and is the Editor-In-Chief of *Comparative Strategy: An International Journal*. He has been a consultant on international security issues to the White House and the Arms Control and Disarmament Agency, and currently serves the US State Department as a member of the Defense Trade Advisory Group. Dr. Payne testifies frequently before Congressional Committees, and has lectured on defense and foreign policy issues at numerous colleges and universities in North America, Europe, and Asia. He has also testified before the British Houses of Lords and Commons. He is the author or co-author of over seventy published articles and fourteen books. Dr. Payne received an M.A. and Ph.D. in international relations from the University of Southern California.

Barry Schneider is an Associate Professor of International Relations in the Department of Future Conflict Studies at the US Air War College, where he has worked since 1993. He researches, writes, and teaches on weapons of mass destruction proliferation issues and on international flash points. A former strategic analyst at several Washington, D.C.-based think tanks, and foreign affairs officer at the US Arms Control and Disarmament Agency in Washington D.C., he is coeditor of three books: *Current Issues in the US Defense Policy*, *Missiles for the Nineties*, and *Battlefield of the Future*. His next book, nearing completion, is on *Future War and Counterproliferation: US Military Responses to NBC Proliferation Threats*.

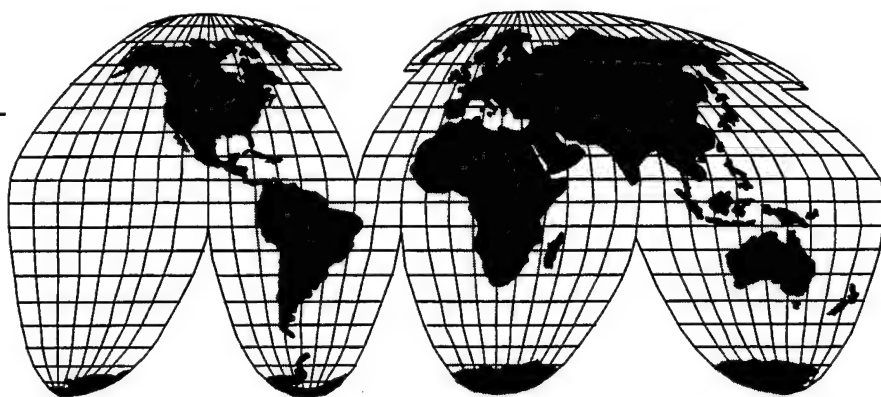
James Terry Scott, LTG US Army (Ret.) is Director of the National Security Program at the John F. Kennedy School of Government, Harvard University. He joined the faculty in 1997 after retiring from the US Army the previous year. He is a highly decorated officer whose troop experience included five combat tours, three of which were in Vietnam. His military staff duties included service with the West Point faculty assigned to the Department of Tactics; speech writer and editor in the Office of the Chief of Staff, Army; and Deputy for Plans and Policy, US Pacific Command. In 1983, he participated in the Grenada operation, commanding the 3rd Brigade, 82nd Airborne Division. In September, 1989, he joined the 24th Infantry Division (Mechanized) at Fort Stewart, Georgia, as the Assistant Division Commander. He served in that position throughout Operations Desert Shield and Desert Storm in Saudi Arabia and Iraq. From 1991 to 1993 General Scott commanded the 2nd Infantry Division in the Republic of Korea. In May 1993, General Scott was appointed Commanding General, US Army Special Operations Command (Airborne).

Henry Sokolski is the Executive Director of the Nonproliferation Policy Education Center and teaches graduate school courses on proliferation at Boston University's Institute of World Politics in Washington, DC. From 1989 to early 1993, Mr Sokolski was a political appointee of the Bush Administration and served as Deputy for Nonproliferation Policy in the Office of the Secretary of Defense. Prior to his appointment, Mr Sokolski worked in the Secretary's Office of Net Assessment as a full-time consultant, served as Senior military legislative Aide to Senator Dan Quayle, and was Special Assistant on Nuclear Energy matters to Senator Gordon Humphries. Mr Sokolski also served as a consultant on proliferation issues to the national Intelligence Council.

John F. Sopko is currently Chief Counsel for Special Matters at the Department of Commerce, Office of General Counsel. Mr Sopko also oversees the Department's ongoing response to inquiries related to allegations surrounding the 1996 federal election campaign. From 1982 until 1997, Mr Sopko served as one of the principal advisors to Senator Sam Nunn on the Senate Permanent Subcommittee on Investigations. He has helped write amendments to various defense bills, including the Nunn-Lugar II amendments to last years' Defense Authorization Act. For the last fourteen years, Mr Sopko was a senior advisor on law enforcement, terrorism and proliferation issues to the Senate and was responsible for directing the two year long probe on the proliferation of nuclear, chemical and biological weapons, materials and technologies that concluded with a series of hearings for Senator Sam Nunn in 1996. An analysis of the policy implications of the recent work Mr Sopko did for Senator Sam Nunn and the Permanent Subcommittee on Investigations on the spread of weapons of mass destruction and disruption was printed as the cover story in the Winter 1996/97 edition of *Foreign Policy*.

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Victor Utgoff is a deputy director of the Strategy, Forces and Resources Division of the Institute for Defense Analyses. Previously he has been a staff member with the National Security Council Staff, the Center for Naval Analyses, and several aerospace firms. His most recent research has focused on the problems involved in carrying out interventions against NBC-armed regional challengers. Dr. Utgoff has also done research in the areas of arms control and confidence building, the future of military technology, and post-Cold War US requirements for armed forces. He is the author of several books and many papers, and a member of the Council on Foreign Relations and the Arms Control Association.



Appendix C
“Response” Portion of
Proliferation: Threat and Response
Office of the Secretary of Defense
April 1996

DEPARTMENT OF DEFENSE RESPONSE

INTRODUCTION

The proliferation of weapons of mass destruction provokes regional instability and challenges to the interests of the United States. The United States is an international leader in developing and sustaining global norms against the proliferation of these weapons and missiles. The United States is actively engaged in dialogues with several states in regions around the world to persuade them not to acquire these capabilities or to eliminate capabilities they might have already developed. The United States also is working with states to combat proliferation by assisting them in gaining and assuring greater control over their dual-use equipment and technology. States that gain weapons of mass destruction are able to pose a significant military threat to the interests of the United States, our allies, and friends. The Department of Defense actively contributes to overall U.S. efforts to stem proliferation wherever it occurs and from whatever source, including through active and passive defenses, and maintaining the credibility of our security commitments against military threats, including from adversaries armed with nuclear, biological, or chemical weapons and the missiles to carry them. This section outlines the steps the Department is taking to respond to the challenge of proliferation, and DoD measures to respond to the military threats states pose with their NBC weapons, in support of overall U.S. government efforts to respond to this challenge.

Informed by lessons learned (and some unpleasant surprises) from the Gulf War against Iraq and by the systematic Bottom-Up Review that identified post-Cold War military requirements, DoD has developed the Defense Counterproliferation Initiative. As part of this initiative, the Secretary of Defense has directed that the Joint Chiefs of Staff (JCS), the operational Commanders in Chief (CINCs) responsible for the planning and conduct of military operations, and the military departments and their uniformed services give greater emphasis to counterproliferation requirements and considerations.

Specific objectives of the Defense Counterproliferation Initiative are to: (1) prevent the acquisition of NBC weapons and their delivery systems, (2) roll back proliferation where it has occurred, (3) deter the use of NBC weapons and their delivery systems, and (4) adapt U.S. military forces and planning to respond to regional contingencies in which U.S., allied, and coalition forces face NBC threats. The ordering of objectives is deliberate. In line with national policy, proliferation prevention is the top priority.

To achieve these objectives, the Department of Defense has requested \$165.2 million in FY 1996 for counterproliferation. This effort would fund specific high priority acquisition activities to provide required military capabilities. DoD will also use these funds to modify and adapt other programs (totalling \$3.8 billion) that are strongly related to the counterproliferation mission.

The Defense Department plays a role in support of all facets of national counterproliferation policy. This overview begins with proliferation protection, for which DoD has unique responsibilities, and then reviews contributions to proliferation prevention.

PROTECTION

Overview

One of the core objectives in proliferation protection policy is to convince potential and actual proliferants that NBC weapons will be of no value because the United States and its coalition partners will have the capability to deny or limit the political and military utility of NBC weapons, and because the damage inflicted by U.S. and coalition forces in response will far outweigh any potential benefits of use.

There is no simple solution or single response to the threat posed by the proliferation of NBC weapons and their delivery systems. As is essential with all new initiatives, the right balance has to be struck between thorough, step-by-step planning and early action to remedy long identified shortfalls. A

between thorough, step-by-step planning and early action to remedy long identified shortfalls. A comprehensive review of the military missions and functions related to counterproliferation has been completed to ensure that all aspects of the issue are assessed. DoD assessments have been coordinated with congressionally mandated national reviews. Several acquisition programs already in the pipeline have been augmented to remedy identified shortfalls. Proliferation protection measures can be grouped into five areas of emphasis: policy, military planning and operations, acquisition, intelligence, and international cooperation initiatives. While much work is yet to be done to acquire the required capabilities, there have been significant achievements to date.

Policy

President Clinton's September 1993 policy statement to the United Nations General Assembly established the groundwork for building a new consensus within the United States and with our friends and allies abroad concerning counterproliferation objectives.

Early in his Administration, President Clinton issued guidance defining national nonproliferation policy objectives. Responding to this guidance, the Secretary of Defense issued DoD implementation instructions. Counterproliferation objectives and capabilities are now routinely addressed in the Department's planning and programming processes, with prominent emphasis in the Defense Planning Guidance. Military planning, training, and exercises now give much more emphasis to proliferation when potential major regional contingencies are addressed.

The underlying objective of the Defense Counterproliferation Initiative is to make counterproliferation one of the matters that is routinely given consideration within the Department's activities. Counterproliferation is not of a unique nature requiring a stand-alone organizational structure. Rather, counterproliferation considerations have ramifications for virtually every aspect of the defense mission in this new security era and, therefore, should be embedded in the day-to-day operations. Secretary Perry has directed the establishment of a DoD Directive to fully reinforce implementation of counterproliferation policy. The Assistant Secretary of Defense for International Security Policy has been assigned responsibility for the development and implementation of DoD's counterproliferation policy.

Proliferation protection is based on the enhancement and utilization of existing resources. Proliferation protection requires a broad range of capabilities, including effective strategic and tactical intelligence; battlefield surveillance; counterforce; active defense; passive defense; and response to paramilitary, covert, and terrorist threats.

Military Planning and Operations

One of the objectives of the DoD Counterproliferation Initiative is to integrate proliferation concerns into the existing DoD defense planning process. At the request of the Deputy Secretary of Defense, the Chairman of the Joint Chiefs of Staff (CJCS) conducted a review of the missions of the CINCs and functions of the armed services in support of the counterproliferation policy. To guide his study, the CJCS issued terms of reference for counterproliferation activities to combatant commanders that cover situations where the military might be called upon to support U.S. policy. The study addressed how the Services organize, train, and equip their forces to support the counterproliferation policy and the missions, responsibilities, and force structure of each combatant command.

The final report of the Missions and Functions Study was approved by the Secretary of Defense on May 5, 1995. It recommended that counterproliferation be assigned to the U.S. armed forces as a military mission. On May 24, 1995, the President subsequently revised the Unified Command Plan to reflect this decision. The mission to counter the proliferation of NBC weapons was assigned to those combatant commanders (CINCs) most directly responsible for carrying out the defense of U.S. national interests overseas where proliferation occurs and its immediate impact is felt -- namely, the CINCs with geographic areas of responsibility. The assignment of counterproliferation as a definitive military mission will result in optimized organizational arrangements between supported and supporting CINCs, development of counterproliferation-specific operational concepts, and tailored relationships between the CINCs and the U.S. Intelligence Community and other government agencies that will improve U.S.

the CINCs and the U.S. Intelligence Community and other government agencies that will improve U.S. forces' ability to operate and prevail against an NBC-armed adversary.

The CINCs, Services, and Joint Staff are already engaged in planning activities to support the overall U.S. government effort against NBC threats. The Joint Warfighting Capabilities Assessment (JWCA) was commissioned by the CJCS to evaluate the overall U.S. military effort to respond to the challenges of the new global security environment. The CJCS designated counterproliferation as one of the nine central Joint Warfighting Capabilities to be addressed in this ongoing series of assessments. Working from national goals identified in the President's National Security Strategy, the JWCA translates these national goals into military objectives and requirements, and then identifies the military capabilities and programs necessary to meet those requirements.

The key to effective planning for the operational challenges posed by proliferation is a detailed analytical understanding of this new security challenge and its implications for current U.S. strategy. Based on this analysis, the Department is determining initiatives that optimize solutions to the complex and myriad challenges posed by a future adversary's use or threatened use of NBC weapons.

Joint Staff planners have been working with the CINCs to refine counterproliferation priorities and required enhancements to U.S. military capabilities for all warfighting missions. As a result, the CINCs have developed a list of required capabilities to meet the NBC proliferation threat. The CINCs place highest priority on those missions where the most leverage could be exercised in a short time by fielding quickly enhanced capabilities. This is in line with their responsibility to be prepared to employ their forces for deterrence and defense, immediately.

The CINCs' number one priority for enhancing their counterproliferation capabilities is improved equipment to detect and characterize chemical weapons (CW) and biological weapons (BW) threats, particularly at long ranges. The wide variety of chemical and biological agents calls for a variety of protective measures. Detection and characterization is one element of passive defense. Thus, the ability to detect, range, and track CW and BW clouds, particularly at long ranges, provides additional early warning time for units at risk of attack.

The next CINC priority is the ability to intercept cruise missiles. Emphasis continues to be placed on ballistic missile intercept, but the widening availability of cruise missile technology (particularly the development and potential proliferation of low-observable cruise missile technology) requires military planners to prepare for this emerging challenge. For counterproliferation, these intercept capabilities are termed active defenses. These capabilities are particularly relevant for counterproliferation because cruise missiles are an extremely effective delivery system for BW and certain CW attacks.

Improved capabilities for the identification, characterization, and defeat of underground targets are the next set of CINC priorities. Proliferants are increasingly making use of underground facilities as they respond to the demonstrated effectiveness in the Gulf War of U.S. precision conventional munitions. For counterproliferation, the capabilities to address these targets are termed counterforce. Further discussion of this issue can be found in the Acquisition (Counterforce) portion of this section. Similarly, CINC-designated requirements concerning improvements in intelligence capabilities are addressed in the Intelligence and Acquisition (Counterforce/Battlefield Surveillance) sections.

The regional commanders have identified additional requirements for improved passive defense capabilities to operate successfully in NBC environments. Biological vaccines are one example. One of the key ingredients to dissuading proliferators from acquiring or using these weapons is eliminating the value of NBC weapons and the delivery systems to the proliferant. Passive defenses that allow sustained combat and logistical operations in the face of attacks by NBC weapons and their delivery systems are among the best ways to accomplish this.

Disabling above-ground NBC infrastructure, both production capabilities as well as weapons in storage and on delivery systems, is a CINC priority that poses some unique challenges. Collateral effects, e.g., the dispersal of nuclear, CW, or BW material following an attack, are of concern. Improved capabilities for prediction and minimization of collateral effects are required. A related priority involves new munitions for biological and chemical agent defeat. It may do little good to destroy an incoming missile

munitions for biological and chemical agent defeat. It may do little good to destroy an incoming missile if the CW or BW agent is released anyway, perhaps over U.S. or coalition forces.

Other items on the CINCs' priority list being pursued and discussed later in this section include improvements in capabilities for the detection and tracking of NBC shipments; prompt mobile target kill; support for Special Operations Forces; and the ability to locate, detect, and disarm NBC weapons in the United States and overseas.

Acquisition

The CINCs, working through the JCS, identify their requirements for passive defense, active defense, counterforce, and capabilities against covert/paramilitary threats. The DoD acquisition strategy accelerates programs to meet these requirements, redressing shortfalls and funding research and development (R&D) to provide capabilities that cannot be met with current systems and technologies. The JWCA Counterproliferation Team is a mechanism for providing linkage between regional commanders' requirements and the Department's R&D investment programs.

To provide focus for the Defense acquisition strategy, the Assistant to the Secretary of Defense for Atomic Energy has been designated as the lead for counterproliferation programs within the Office of the Secretary of Defense (OSD). The same official serves as the oversight authority for chemical/biological defense programs.

At the direction of Congress, a Non-Proliferation Program Review Committee (NPRC) was constituted in 1994. In its May 1994 report to Congress, the primary volume of which has been made available to the public, this committee identified key areas in which progress was needed to improve government-wide capabilities for proliferation prevention and protection. DoD established the Counterproliferation Support Program specifically to address the DoD shortfalls in operational capabilities identified by the NPRC. Congress provided the Counterproliferation Support Program with \$60 million in FY 1995 to jump-start the program, and \$108.2 million has been requested by the Administration in FY 1996 to accelerate the development and deployment of essential military counterproliferation technologies and capabilities. In addition, \$57 million was added to the existing cruise missile defense programs (in the FY 1996 President's Budget Submission), bringing the total DoD enhancement for FY 1996 to \$165.2 million. These funds assist the Department in addressing specific counterproliferation priorities in tandem with the existing DoD-wide FY 1996 investment of approximately \$3.8 billion in programs related to countering proliferation (of which \$2.4 billion is research, development, test and engineering (RDT&E) funding to provide an active defense capability).

A follow-on Counterproliferation Program Review Committee (CPRC) comprised of the Secretary of Defense (chairman), Secretary of Energy, Director of Central Intelligence (DCI), and Chairman of the Joint Chiefs of Staff was constituted by Congress to provide status reports on activities to accomplish improvements identified by the NPRC. The result is a coordinated national investment strategy for counterproliferation. Details are contained in the *Counterproliferation Program Review Committee Report on Activities and Programs for Countering Proliferation*, May 1995. Again, in the interest of informing the public, most of this committee's product has been released for general distribution.

The Department is focusing its investments in military systems to support counterproliferation in four areas: passive defense; active defense; counterforce; and measures to counter paramilitary, covert, and terrorist NBC threats.

It should be noted that the programs outlined below represent proposed, new, and ongoing DoD projects and new initiatives strongly related to countering proliferation. General purpose and defense infrastructure programs, such as the development and procurement programs for the various military weapon delivery platforms, are not included because they contribute to the basic capabilities of U.S. forces as well as capabilities for countering proliferation. Most of the new investments leverage existing and other in-development capabilities.

PASSIVE DEFENSE

In response to congressional direction, the Defense Department has established an integrated Chemical-Biological Defense (CBD) program under the oversight of the Assistant to the Secretary of Defense for Atomic Energy. The same official has oversight responsibility for the Joint Program Office for Biological Defense created to provide management oversight for critical BW defense acquisition programs, including BW vaccine production and BW agent battlefield detection programs. The Counterproliferation Support Program leverages existing programs to accelerate the fielding of critical systems and technologies.

Passive defense involves military capabilities that provide protection against NBC weapon effects. Passive defense programs involve contamination avoidance (reconnaissance, detection, and warning), force protection (individual and collective protection and medical support), and decontamination.

Within the contamination avoidance area, sensors for joint task forces, mobile BW/CW reconnaissance, and systems capable of detecting multiple BW/CW agents and characterizing new agents are being developed. Technological advances are being pursued in remote detection, miniaturization, lower detection limits, logistics supportability, and biological detection capability.

In the force protection area, improved mask systems and advanced protective clothing are being developed under a joint program that will reduce the weight, heat stress, and logistics burden of current gear. Medical research is providing improved prophylaxes, antidotes, treatments, vaccines, and medical casualty management systems. Lightweight BW/CW protective shelters and integrated collective protection technology advances are also supported.

For decontamination, modular systems are being developed. Technology development programs to examine advances in sorbents, coatings catalysis, and physical removal are supported. The CBD program also includes projects to protect U.S. forces from nuclear and radiological weapons effects, including detection and warning sensors, individual and collective protection, medical response, and decontamination. The total RDT&E and procurement budget for the CBD program in FY 1996 is about \$350 million.

As a counterpart to these activities, the Counterproliferation Support Program leverages existing programs to accelerate the deployment of important systems. Specifically, the program is supporting projects to: (1) accelerate (by up to six years) the fielding of an advanced long-range eye-safe infrared lidar (laser detection device) to provide long-range battlefield warning of CW/BW use; (2) explore whether ultraviolet multifrequency lasers can be employed to detect and characterize biological agents by their fluorescent spectra; (3) develop miniaturized BW/CW point detectors with increased sensitivity that are amenable to installation on unmanned aerial vehicles; (4) accelerate (by two years) the procurement of improved individual protective clothing and collective protective equipment; (5) supplement the CBD decontamination technology base; and (6) enhance existing joint NBC doctrine and training procedures by intensified battlefield simulation. Approximately \$30 million has been budgeted in FY 1996 for these passive defense elements of the Counterproliferation Support Program.

The Defense Nuclear Agency (DNA) and the military departments also manage a number of passive defense programs. DNA has programs to ensure the survivability of weapons systems in a nuclear environment; \$95.5 million has been budgeted for these investments in FY 1996. The Navy's Radiological Controls program provides RDT&E of radiation monitoring equipment for Navy and Marine Corps use. The Army's programs include the operation of Dugway Proving Ground, Utah, as the primary test range for biological and chemical defense equipment and the Nuclear Effects Survivability program, which develops technology to enhance the survivability of Army systems in nuclear environments. Additional details may be found in the May 1995 Counterproliferation Program Review Committee Report.

ACTIVE DEFENSE

This facet of counterproliferation involves programs that improve capabilities to detect, track, identify, intercept and destroy, and neutralize NBC warheads delivered by airborne launch platforms, ballistic missiles, and cruise missiles, while minimizing collateral effects.

To address the security challenges posed by the proliferation of NBC weapons and the ballistic missiles used to deliver them, DoD is continuing to implement the new priorities established for ballistic missile defense identified in the Department-wide Bottom-Up Review. These new priorities respond to the end of the Cold War. They focus on requirements to prepare for major regional contingencies that may involve adversaries with NBC weapons.

The threat of the use of ballistic missiles has grown enormously over the past two decades. Ballistic missiles have been used in six regional conflicts since 1973. During the Gulf War, the United States and its Coalition partners were unable to locate Iraq's mobile launchers and halt ballistic missile attacks. Ballistic missiles -- coupled with NBC weapons -- will pose an even greater threat to U.S. security and that of allies and other friendly nations. To effectively counter such threats, a layered defense is optimal, with effort being made to attack prior, at, or immediately after launch so that NBC warhead debris and contamination do not land on friendly territory or troops. While engagement prior to launch is optimal, it may be more practical in some situations to engage missiles after they are launched. The Ballistic Missile Defense Organization (BMDO) has the lead in this technology and acquisition effort.

To achieve active defense against missiles armed with NBC warheads in a theater conflict, DoD has developed a theater missile defense (TMD) architecture that will entail deployment of multilayered defenses. These layers consist of a lower tier including Patriot Advanced Capability-3 (PAC-3), Navy area TMD, and Corps Surface-to-Air Missile/ Medium Extended Air Defense System (SAM/ MEADS), and an upper tier comprising Theater High Altitude Area Defense (THAAD) and Navy wide-area TMD; and boost phase intercept.

The technologies necessary to destroy enemy ballistic missiles during boost phase soon after launch are still being developed. Additional efforts are aimed at gaining a better understanding of the dispersion of BW/CW agents in flight and methods for neutralizing them to reduce collateral effects associated with ballistic and cruise missile engagements.

BMDO is currently conducting several TMD programs including: (1) boost phase intercept; (2) demonstration, validation, and engineering manufacturing development for various TMD concepts including Patriot PAC-3, THAAD, the Navy Upper Tier and Lower Tier Systems and Corps SAM/ MEADS; (3) advanced sensor technology and innovative science and technology RDT&E programs for post-2000 defense systems; (4) threat and countermeasures projects that define adversary military systems to ensure a robust defense system; and (5) assessment, modeling, and experimental activities involving collateral effects release associated with attacking cruise and ballistic missiles armed with NBC weapons. BMDO has budgeted approximately \$2.4 billion in FY 1996 to support these programs.

BMDO active defense programs are supplemented by a number of Defense Advanced Research Projects Agency (DARPA), Navy, and Air Force programs. In its air defense initiative, DARPA is developing the Mountain Top radar for defense against manned aircraft, cruise missiles, and theater ballistic missiles; \$45.6 million has been budgeted for the program in FY 1996. BMDO and the Navy will also provide FY 1996 funding for the Mountain Top ACTD (Advanced Concept Technology Demonstration). DARPA's Enhanced Program for Cruise Missile Defense will provide additional sensor platforms and fire control capabilities to accelerate its overall air defense initiative; \$57 million has been budgeted for this program in FY 1996.

The Air Force is managing three programs in this area: the Theater Missile Defense program, the Airborne Laser (ABL) program, and the Space Sensor and Satellite Communication Technology program. The Air Force will field one ABL prototype with a contingency capability in 2001. The ABL destroys theater ballistic missiles in the boost phase, causing debris to fall on enemy territory, and it also provides a rapidly deployable wide-area defense capability. Approximately \$47 million has been budgeted for these activities in FY 1996.

COUNTERFORCE

This component of counterproliferation involves development of military capabilities to target (using battlefield surveillance and other intelligence assets), plan attacks, seize, disable, destroy, disrupt,

battlefield surveillance and other intelligence assets), plan attacks, seize, disable, destroy, disrupt, interdict, neutralize, or deny the use of NBC weapons and launch platforms and their supporting command, control, and communications (C3); logistics structure; and reconnaissance, surveillance, and target acquisition platforms while minimizing collateral effects. Attack operations include action by air, land, sea, space, and special operations forces.

In the counterforce area, DoD is working to improve capabilities to defeat NBC threats before they can be used against U.S., allied, and coalition forces and noncombatants. U.S. forces must be capable of a rapid and effective response to contingencies throughout the world. Resources are being applied to improving capabilities for battlefield surveillance, target characterization, and munition/ agent defeat.

For battlefield surveillance, DoD is improving capabilities to detect, identify, and characterize NBC forces and associated infrastructure elements in a timely manner to support targeting, mission/ strike planning, and post-strike battle damage assessments (BDA). Emphasis is being placed on continuous wide-area surveillance; detection of mobile targets (particularly NBC-armed mobile missile launchers) and improved BDA capabilities. DoD is also enhancing capabilities for the integration and analysis of sensor inputs. These capabilities are required to provide the data needed to support attacks in the often very limited time windows available before mobile targets move from previously identified locations. As the Gulf War demonstrated, this is an extremely challenging problem. We were not successful in attempts to detect and destroy mobile SCUD-class theater ballistic missiles prior to launch. Such missions require the orchestration of inputs from sensors in near real-time and the prompt response of weapon systems capable of defeating these targets.

Target characterization -- accurate information concerning the locations and characteristics of NBC related facilities -- is required for counterforce operations. The detection and characterization of hardened underground NBC facilities are particularly vital given the challenges of defeating these targets. An underground location does not preclude a facility from being located, characterized, and defeated. The warfighter needs intelligence information that characterizes the NBC facility, ideally to the level of resolution needed to direct precision munitions against the most critical elements within it. This information needs to be supplemented with modeling tools that can assist in target characterization and selecting the most effective weapon.

To make effective use of this target information, our forces must have weapons that are capable of penetrating through walls and other barriers that provide protection for above- and below-ground structures. They must also have munitions that can defeat the NBC targets engaged. For biological and chemical weapon targets, new types of agent defeat munitions are needed. These systems must be able to perform their missions in scenarios in which NBC targets are protected by air defenses and (in the future) missile defenses. Concurrently, there is a requirement for a new system for the prediction of the collateral hazards that might result from attacks on NBC targets. The collateral effects induced by damage to the chemical or biological weapon targets may be far more significant than the direct and collateral effects induced by the munitions used in the attack.

The Counterproliferation Support Program is supporting several specific projects in the counterforce area. The investments focus on sensors, collateral effects mitigation, weapon effects and target response, advanced weapons and warheads, munitions for neutralization of chemical and biological agents, concepts for defeat of tunnels, and a Counterproliferation ACTD.

Priorities for new sensors to support counterforce operations include tactical Unattended Ground Sensors (UGS) and airborne forward looking infrared radar for target surveillance, characterization, battle damage assessment and collateral effects monitoring, and developing a weapon-borne sensor to enhance underground target bomb damage assessment; \$9.3 million has been budgeted in FY 1996 for these programs as part of the Sensor Technology Project.

Improving our understanding of collateral effects release phenomenology and transport is a priority for counterforce attacks against NBC targets. Approximately \$8.9 million has been budgeted in FY 1996 for source term characterization and transport prediction, phenomenology experiments, and assessment tools.

Improving the state of knowledge in weapons effects and target vulnerability/response is required to ensure that counterforce operations are effective. Over \$9 million has been budgeted in FY 1996 for experimental and analytical assessment of NBC target vulnerability response and automated target planning for NBC targets/proliferation path assessments to assist in target identification and strike planning.

Developing advanced penetrating weapons and advanced warheads/payloads for enhanced lethality and functional kill against hard underground targets is required because some proliferants have opted to locate their NBC capabilities in underground or otherwise hard-to-defeat locations and facilities. In FY 1996, \$14.3 million has been budgeted to develop an enhanced penetrating munition to defeat underground targets. It will be compatible with most tactical delivery platforms and have all-weather, anti-jam precision guidance capability. Additionally, \$3.5 million has been budgeted in FY 1996 for development of a high temperature incendiary weapon payload and a classified payload.

Concern regarding collateral effects has prompted efforts to develop new types of biological and chemical agent neutralization weapons. Approximately \$4 million has been budgeted in FY 1996 for development of prototype agent defeat munitions.

We are also emphasizing tunnel defeat concepts, target response, and vulnerability assessment because some proliferants have opted to make use of these very difficult-to-defeat facilities. Approximately \$9.9 million has been budgeted in FY 1996 to assess tunnel response and vulnerability.

ACTDs are a new approach to acquisition. They rapidly integrate and demonstrate new military applications of current technologies. They are performed for a warfighting command customer and provide (following demonstration) a small quantity of new prototype systems. Responding to a CINC priority, a Counterproliferation ACTD is being conducted to integrate advanced sensors, mission planning tools, collateral effects prediction capability, and enhanced conventional weapons. The ACTD is designed to support rapid fielding of these new capabilities; \$2.7 million has been budgeted for this program in FY 1996.

These new DoD counterforce initiatives are supplemented by current DARPA and DNA programs. The DARPA "Warbreaker" or Critical Mobile Targets Project is focusing on Distributed Interactive Simulation to support R&D activities associated with sensor systems, communication sites, and information processing systems to detect, identify, and prosecute high value, time-critical fixed and mobile targets such as theater ballistic missiles, tanks, and artillery; \$135 million has been budgeted for this project in FY 1996. DNA's weapon system lethality program is developing lethality criteria for a full spectrum of weapons, including precision guided munitions and advanced conventional and unconventional payloads. The target base includes hard and superhard underground facilities, fixed surface facilities, and seabased structures; \$46 million has been budgeted for this project in FY 1996.

MEASURES TO COUNTER PARAMILITARY, COVERT, AND TERRORIST THREATS

Acquisition investments in this category are intended to protect military and civilian personnel, facilities, and logistical/mobilization nodes from this special class of NBC threats, both in the United States and overseas. This category of threat is increasing. Particularly challenging is the threat of covertly emplaced NBC weapons. The chemical weapon attack on the Tokyo subway by Japanese terrorists is a grim example. DoD is actively pursuing several activities to counter paramilitary, covert delivery, and terrorist NBC threats and protect military facilities and logistical/mobilization nodes against these threats. These include supporting, training, and equipping Joint Special Operations Forces, Explosive Ordinance Disposal (EOD) teams, and NBC weapon response teams to detect, neutralize, and render safe NBC devices both in the United States and overseas. These DoD capabilities can be provided to assist appropriate U.S. government authorities in countering these threats, operating within the parameters provided by law and regulation; the Defense Department is not a domestic police agency.

DoD is devoting significant resources to developing the necessary technical means to counter NBC paramilitary, covert delivery, and terrorist threats. Much effort is underway in tactical intelligence and related programs to conduct counterproliferation missions. Other programs include development of

related programs to conduct counterproliferation missions. Other programs include development of special warfare and C3 equipment, airbase protection programs, Nuclear Emergency Search Team (NEST) support activities, multi-Service EOD teams, and RDT&E of advanced technologies to support the U.S. Special Operations Command and EOD operations. Just over \$12 million has been budgeted for these programs in FY 1996.

New DoD initiatives to counter paramilitary/covert and terrorist NBC threats are being supported by the Counterproliferation Support Program. These efforts are focused on developing an effective response to chemical and biological threats through development of BW/CW emergency response teams modeled on Department of Energy's NEST. Projects underway include evaluation of military facility NBC defense and developing enabling technologies and equipment to support and fund joint training exercises to improve readiness of NBC response teams. Just under \$5 million has been budgeted for these projects in FY 1996. The Department of Energy national laboratories are also contributing to these projects, including work with DNA's Nuclear Incident Program to improve military base and mobilization/logistical node defense against nuclear threats.

Finally, the Navy's Joint Service Explosive Ordinance Disposal Systems program develops specialized EOD equipment and tools required for detecting, locating, and rendering safe NBC munitions. The Navy has budgeted about \$4.8 million for this program in FY 1996.

Intelligence

Effective intelligence support is critical to all aspects of the DoD counterproliferation effort. To assist Department officials in taking advantage of proliferation prevention and protection opportunities, the Intelligence Community must provide accurate and timely intelligence assessments on the motivations and plans of leaders in states that may elect to develop NBC weapon capabilities, the clandestine procurement networks used by these states, the status of their NBC weapon programs, and locations of both weapon production capabilities and deployed weapons. Information on NBC weapon-related intentions, capabilities, and activities of transnational groups, such as ethnic or regional movements, terrorists groups, or organized criminal elements, also is needed. This is a demanding set of requirements. The dual-use nature of many technologies involved in NBC and delivery systems development complicate these tasks.

The Intelligence Community has taken steps to improve the management and coordination of intelligence support to DoD customers. As part of this effort, additional DoD personnel -- including the addition of a military deputy -- have been assigned to the DCI's Nonproliferation Center (NPC) -- the Intelligence Community body that orchestrates intelligence activities related to proliferation. NPC and the Intelligence Community have instituted a new strategic planning, resource guidance, and evaluation process that better serves overall counterproliferation efforts. The Defense Intelligence Agency (DIA), however, remains the prime conduit for national-level intelligence support to the Defense Department. To better focus its intelligence support to counterproliferation, it created an Office for Counterproliferation and Nuclear, Biological, and Chemical Assessments.

As the threat from proliferants has increased, the Intelligence Community has provided timely information in support of diplomatic, law enforcement, and military efforts to prevent proliferation. The successes of these efforts range from providing actionable intelligence to decisionmakers so they can attempt to stop specific activities to supporting the development of U.S. strategies to deal with proliferators.

Moreover, intelligence programs provide the critical input to the challenges for military planning and operations -- chemical and biological agent detection, characterization of underground activities, information on weapon design to facilitate disabling activities, locating and identifying mobile targets, and calculating weapons effects. In addition, increasingly accurate U.S. weapons require even more fine-grained intelligence information on proliferants' facilities and weapons effects.

Particular emphasis has been given to providing increased warning time before potential adversaries translate technological potential for proliferation into operational NBC weapon capabilities. U.S. acquisition -- and even training and doctrine -- lead times do not permit the luxury of a "wait and see" approach. With lead times for new U.S. capabilities sometimes as long as five to ten years, DoD needs to

approach. With lead times for new U.S. capabilities sometimes as long as five to ten years, DoD needs to be able to anticipate the threats that might be faced in future regional contingencies through early analysis of a proliferant's NBC weapons efforts. To meet this requirement, the Intelligence Community has established new working arrangements with the technical expertise of the Department of Energy and its national labs. This has expanded from a primarily nuclear focus to include chemical and biological weapon threat detection, characterization, and analysis.

International Cooperation

It is very likely that we will not fight alone on the battlefields of the future. Future conflicts are likely to involve coalition operations, as was the case in the Gulf War. Building and maintaining coalitions in such conflicts will be one of the keys to successful military operations. The ability to protect our populations, territory, and forces, and those of our friends and allies, therefore, becomes a paramount consideration in building and maintaining coalitions, as well as succeeding in military operations. As a result, the Defense Counterproliferation Initiative places great emphasis on international cooperation in preparation for future crises or conflicts where the threat or use of NBC weapons may be present.

DoD has been working with America's long-time allies in Europe and Asia to develop a common approach to counterproliferation. Following President Clinton's emphasis at the January 1994 NATO Summit on the danger to Alliance members from NBC proliferation, significant progress has been made in integrating counterproliferation policy into the new, post-Cold War agenda of the Alliance.

At the summit, NATO Heads of State directed that the Alliance intensify and expand its political and defense efforts against proliferation. Three groups were subsequently created: the Joint Committee on Proliferation (JCP), which monitors overall Alliance efforts; the Senior Politico-Military Group on Proliferation (SGP), which focuses on how NATO can reinforce traditional nonproliferation efforts; and the Senior Defense Group on Proliferation (DGP), which examines the defense aspects of proliferation, including the military capabilities needed to discourage NBC proliferation, deter NBC weapons use, and if necessary, to protect NATO territory, populations, and forces.

In May 1994, NATO approved two milestone documents: a political framework paper structuring the broad political-military approach of the Alliance to proliferation, and a three-phase workplan for the DGP to address the defense implications of proliferation. The DGP is co-chaired by the United States and one of the European Allies on a rotating basis. France provided the first European co-chair. Having assessed the risks posed by the proliferation of NBC weapons to the Alliance, the DGP has begun the next phase of its work, in which it is grappling with the operational implications of the threat or use of NBC weapons for Alliance military capabilities. In this task, NATO is building on the relevant capabilities of the national militaries and the ongoing work of NATO planning groups. NATO is working to establish a framework for defense activities related to proliferation and to reach conclusions on the full spectrum of Alliance and national capabilities needed to deal with the range of proliferation threats.

The DGP's work is an important part of the Alliance's continuing adaptation to the new security environment. NATO shows that the United States is not alone in its concern for the defense dimension of proliferation. Today, the Alliance sees dealing with proliferation as one of its key missions. This demonstrates that the Alliance remains committed -- indeed, well-qualified -- to address emerging security concerns. It also provides a tangible example of the continued interest of the European allies in cooperative transatlantic security with the United States.

The Government of Japan has also recognized the growing danger from attacks with missiles, including those armed with NBC warheads, the need to strengthen the defensive capabilities of U.S. and Japanese forces, and the necessity of maintaining capabilities for combined joint operations. To meet this threat, the United States and Japan are working to identify the theater missile defense capability Japan will need and to evaluate options for acquiring that capability in future years, including opportunities for cooperative programs.

DoD is currently beginning other cooperative efforts with allies. A defense science symposium involving participants from the United States, United Kingdom, Canada, and Australia was conducted in

involving participants from the United States, United Kingdom, Canada, and Australia was conducted in the United States in March 1995. This symposium focused on counterproliferation technology applications and on the identification of opportunities for collaborative research and development to enhance counterproliferation capabilities. The United States, Canada, and the United Kingdom have initiated a cooperative R&D program to improve capabilities for detecting, characterizing, and providing protection against biological and chemical agents based on lessons learned during the Gulf War.

PREVENTION

Overview

Proliferation prevention is the United States' primary objective. DoD contributions to proliferation prevention are part of a coordinated national effort involving multiple departments and agencies, allied states, and international organizations. Defense Department support includes the Nunn-Lugar Cooperative Threat Reduction (CTR) program, export control activities and DoD inspection, verification, and enforcement support for the treaties and arms control regimes that limit NBC weapons and associated delivery systems. The Defense Department also plays an important role in the four thrusts involved in proliferation prevention -- denial, reassurance, dissuasion, and actions to reverse proliferation.

International norms and standards make an important contribution to proliferation prevention. In addition to creating an atmosphere of restraint, they may provide the preconditions, e.g., inspections, that impede proliferation. These international norms can be specifically agreed to in export control and arms control agreements or they can result from informal arrangements between states.

A great success in the area of norm establishment has been DoD support for the unconditional and indefinite extension of the Non-Proliferation Treaty (NPT). The NPT, which became effective in 1970, establishes obligations for both nuclear weapons and non-nuclear weapons states regarding the transfer, manufacture, or acquisition of nuclear weapons or other nuclear explosive devices. It allows all parties to participate in the fullest possible exchange of equipment, materials, and scientific and technological information for the peaceful uses of nuclear energy while at the same time prohibiting transfer and acquisition of nuclear weapon capabilities.

Cooperative Threat Reduction Program

The CTR program provides the services, tools, and technology required to help the New Independent States (NIS) with the elimination or reduction of weapons of mass destruction and to modernize and expand safeguards against proliferation within the NIS. The program consists currently of nearly 40 separate projects, grouped into three categories, reflecting the objectives established by Congress.

First, Destruction and Dismantlement activities help with the dismantlement and elimination of weapons of mass destruction and their launchers in the four eligible states where they remain (Russia, Belarus, Kazakhstan, and Ukraine). The availability of U.S. assistance encourages these countries to undertake the dismantling of weapons, and then the CTR program provides the actual equipment, services, and training required to implement their dismantlement decisions. Specifically, CTR Dismantlement and Destruction activities are:

- Assisting Ukraine, Belarus, and Kazakhstan in becoming non-nuclear weapons states.
- Assisting Russia in accelerating strategic arms reduction to START levels.
- Initiating and accelerating the destruction of Russian chemical weapons.

Projects in this area assist in the dismantlement or destruction of strategic nuclear missiles, silo launchers, liquid and solid rocket propellants, and Russian chemical weapons. Also included is assistance in the destruction of the launcher tubes in ballistic missile-firing submarines, the elimination of heavy bombers, and the elimination or conversion of the infrastructure (hardware and personnel) that supports these systems.

supports these systems.

Second, through chain of custody activities, the CTR program decreases the dangers from the nuclear weapons and fissile materials that remain in the NIS, particularly Russia. During the difficult and uncertain period of transition in these states, the continued secure chain of custody of nuclear weapons and materials is vitally important to both the United States and the NIS. Chain of Custody activities enhance security, safety, and control of nuclear weapons and fissile material in Russia by assisting in centralizing fissile material in a limited number of storage areas and strengthening safety, security, and control during movement and interim storage. Projects provide assistance to enhance effective controls over nuclear weapons and the fissile materials removed from them throughout the drawdown and dismantlement of these weapons. This includes providing safe and secure transportation of nuclear weapons from operational sites and storage areas to dismantlement facilities; improved security and accountability for weapons in transit; safer and more secure storage and transport of fissile material removed from nuclear weapons by providing storage containers; and designing, equipping, and assisting in construction of centralized fissile material storage facilities.

Finally, CTR supports Demilitarization efforts. CTR Demilitarization activities are encouraging the demilitarization of Ukraine, Belarus, Kazakhstan, and Russia by supporting conversion of NIS defense enterprises, expanding defense military contacts, and reemploying weapons scientists. These activities are decreasing the long-term threat by reducing the capacity and economic pressures in the NIS to continue to produce weapons of mass destruction.

CTR supported defense conversion industrial partnerships help to reduce the potential of a future nuclear threat at its source, as do international science and technology centers the United States and other countries have set up in Moscow and Kiev. Through these centers, former Soviet nuclear scientists and engineers are being reemployed in peaceful, civilian endeavors. These projects reduce the supply of weapons of mass destruction available for foreign sale, the incentives for relying on such sales for income, and provide job alternatives for weapons scientists who might otherwise be tempted to sell their nuclear expertise abroad. The defense conversion investments under CTR are win-win-win -- they help reduce the threats from weapons of mass destruction; they help the NIS build peaceful, commercially viable market economies while reducing excess military capacity; and they provide opportunities for U.S. industry's entry into potentially large markets for civilian goods and services.

CTR ACCOMPLISHMENTS

CTR has gone far to reduce the threat of proliferation within and outside the former Soviet Union in the three short years of its existence, and the bulk of the achievements have been in just the past year. The program has facilitated the return to Russia of over 1,700 warheads from Belarus, Kazakhstan, and Ukraine; the removal to secure storage of over 2,800 warheads from missile and bomber bases; the deactivation of four regiments of SS-19 ICBMs in Ukraine; the removal of 750 missiles from their launchers; and the elimination of approximately 630 strategic launchers and 91 bombers throughout the NIS. CTR assistance also helped prompt Ukraine to begin early deactivation and shipment to Russia of SS-19 and SS-24 warheads and to accede to the Nuclear Non-Proliferation Treaty as a non-nuclear weapons state, thereby allowing the Start I treaty to enter into force -- a key nonproliferation success.

CTR has contributed to other efforts to prevent proliferation. Over 5,000 former Soviet weapon scientists and engineers once engaged in nuclear weapons research are now or soon will be employed on peaceful, civilian research projects, thus reducing the threat of the transfer of their deadly expertise to potential proliferant states. The Project Sapphire mission in November 1994 to remove 600 kilograms of highly enriched uranium to the United States from Kazakhstan was partially financed with CTR funds.

Denial

Denial involves carefully targeted export controls and the disruption of weapons and technology trade which would assist the potential proliferant in obtaining NBC weapons and delivery systems. U.S. export control policy has two principal objectives. First, we want to stop -- or at least retard -- the transfer to potential proliferant states of those technologies which could permit them to design, manufacture, or acquire NBC weapons and their delivery systems and other dangerous armaments.

manufacture, or acquire NBC weapons and their delivery systems and other dangerous armaments. Second, we want to monitor flows of dual-use technologies that are acceptable in themselves, but which if diverted or applied to military end uses could have a negative impact on our national security interests. Some of the key objectives are as presented below:

"Although we recognize that export controls cannot be 100 percent effective in preventing individual transfers, we are convinced that such efforts buy us time to implement other measures to mitigate the impact of these transfers. We believe that a more focused approach of the denial strategy -- concentrating on those key enabling technologies that are produced by a limited number of states -- will, if applied universally, raise the cost to, and increase the difficulty encountered by, even the most determined proliferant."

Mitchel B. Wallerstein
Deputy Assistant Secretary of Defense
Presentation to the Conference on Dealing
with the Spread of Nuclear Weapons
The Hague, May 19-20, 1995

DoD's technology security program is designed to prevent the transfer of dangerous and sensitive technologies to countries that pose security threats. When technology is transferred to a country that does not pose a threat, DoD contributes to national efforts to ensure that the transfer is done in a manner that does not endanger U.S. interests or compromise our national security. In addition to controlling transfers of destabilizing conventional weapons and associated dual-use technologies, DoD's technology security program supports the Department's Counterproliferation Initiative.

The Defense Technology Security Administration (DTSA) provides unique military expertise in the processes used to review export applications and serves as the primary DoD agent for executing DoD's portion of the U.S. denial strategy. In order to prioritize export control reviews as they apply to chokepoints, DTSA applies the OSD Critical Technology Support Program, a congressionally mandated mechanism for identifying the most important, militarily relevant technologies. Assistance is provided by the Department of Energy's Office of Energy Intelligence, the Defense Intelligence Agency, the Defense Nuclear Agency, and other DoD components. Defense Department and other U.S. Intelligence Community organizations actively support the export review process by identifying the key technologies that enable NBC proliferation. Intelligence provides important information on pending or ongoing foreign shipments of critical materials, to include technical assessments of materials and whether they are intended for legitimate civilian use or for military applications.

These analysts also provide critical information on how proliferants acquire technologies and materials through the use of complicated covert procurement networks. Because many of these networks include maritime transport, the Counterproliferation Support Program is directly supporting the deployment this year of the Navy's Specific Emitter Identification (SEI) System to improve DoD's capabilities to identify and track ships at sea suspected of transporting NBC weapons, delivery systems, and NBC related materials. DoD has budgeted approximately \$2.8 million to continue the development of special SEI equipment in FY 1996.

These intelligence capabilities will help the United States maintain and strengthen controls on critical technologies. These controls can have a dramatic effect on slowing the pace of programs and raising their costs. This contribution is important to the ongoing efforts to focus and strengthen key international export control regimes. These capabilities can also be used to support diplomatic demarches and international inspections. Accurate and timely information on a proliferant's activities and intentions can be used to build a global consensus that international norms have been violated.

While DoD shares responsibility for U.S. policy on international regimes with the State Department, Arms Control and Disarmament Agency, and others, the Defense Department provides unique technical and military expertise vital to making these regimes effective. In addition to intelligence support, DoD participates in the negotiation of these regimes, providing valuable operational and technical knowledge.

DoD also plays a leadership role in the implementation of many arms control and nonproliferation

DoD also plays a leadership role in the implementation of many arms control and nonproliferation regimes. For example, DNA has focused efforts on technologies to assist in verification of arms control agreements; the On-Site Inspection Agency (OSIA) is responsible for implementing inspection and escort and monitoring requirements under the verification provisions of several U.S. treaties and agreements. A total of \$84.6 million has been budgeted for OSIA inspection support in FY 1996. The primary export control and international nonproliferation regimes are outlined below, with specific DoD contributions highlighted.

COORDINATING COMMITTEE FOR MULTILATERAL EXPORT CONTROLS (COCOM) SUCCESSOR REGIME

COCOM was a Cold War era export control regime in which the United States and allies restricted the export of technologies to the Soviet Union and other communist countries. DoD has played a central role in negotiations designed to replace COCOM with a new export control regime. The aim is to provide transparency, responsibility, and restraint in the transfer of conventional arms and sensitive dual-use technologies to countries and regions of concern, to include areas where U.S. and allied forces might face hostile military actions. This regime is designed to complement and reinforce other export control regimes. Through cooperation and sharing of information, it will enable the United States and other participating countries to better track and monitor sensitive arms and technology transfers as they occur. Russia and other formerly COCOM proscribed countries have been given incentives, such as greater access to advanced technologies, to join the regime -- provided they agree to follow the regime's rules. This parallels other DoD efforts, such as CTR, to address the potential spread of NBC weapons and their delivery systems, advanced conventional weapons, and sensitive dual-use technologies from Russia and other states of the former Soviet Union.

MISSILE TECHNOLOGY CONTROL REGIME (MTCR)

The MTCR is a voluntary arrangement of 28 states including the United States, Canada, Western Europe, Russia, Japan, Australia, New Zealand, Argentina, and Hungary. It controls exports of equipment and technology -- both military and dual-use -- that are relevant to missile development, production, and operation. DoD provides intelligence and operational expertise for the national-level decisions that are made, on a case-by-case basis, concerning implementation of this regime's controls

NUCLEAR SUPPLIERS' GROUP (NSG)

This group, comprising 30 countries, seeks to control exports of nuclear materials, equipment and technology, both nuclear-specific and dual-use. Russia is a member of this group. Other former Soviet Republics -- notably Belarus, Ukraine, and Kazakhstan -- are not. China and Brazil are among the major potential suppliers of nuclear resources that are not members. The United States' position is that observance of NSG guidelines for nuclear exports by all potential suppliers (irrespective of their decision to join the group) is crucial for controlling the flow of nuclear materials and technologies.

AUSTRALIA GROUP

The Australia Group is an informal arrangement of 29 industrial countries including the United States, Canada, most of Western Europe, Japan, New Zealand, and Australia. It seeks to prevent the spread of chemical and biological weapons material and dual-use technology. The group holds information exchanges and prepares lists of chemical precursors, microorganisms, and related equipment for member countries to control by export licensing and monitoring.

COMPREHENSIVE TEST BAN TREATY (CTBT)

The United States is seeking to conclude negotiations in the Conference on Disarmament on a Comprehensive Test Ban Treaty in 1996. A CTBT will strengthen the global norm against proliferation of nuclear weapons and constrain development of nuclear weapons capability in both proliferant states and acknowledged nuclear weapon states. DoD provides technical expertise in the CTBT negotiations. The Defense Department's Advanced Research Projects Agency has a program to demonstrate the capabilities of seismic and nonseismic monitoring systems for use in verification of a CTBT

capabilities of seismic and nonseismic monitoring systems for use in verification of a CTBT (approximately \$14 million has been budgeted for FY 1996). The Air Force also has a program, the Nuclear Detonation Detection System, which is aimed at improving capabilities to detect nuclear detonations. Approximately \$16 million has been budgeted in FY 1996 for this program.

BIOLOGICAL WEAPONS CONVENTION (BWC)

The BWC, signed in 1972, prohibits development, production, and stockpiling of biological weapons. The United States is promoting new measures that provide increased transparency of potential biological weapons-related activities and facilities in an effort to help deter violations of and enhance compliance with the Biological Weapons Convention. DoD will participate in the U.S. delegation to the forthcoming BWC Ad Hoc Group negotiations and will play an important role in U.S. efforts to develop off-site and on-site compliance verification measures for consideration by the group. The United States strongly supports the development of a legally binding protocol of such measures to strengthen the BWC.

CHEMICAL WEAPONS CONVENTION (CWC)

The CWC bans the use, development, production, acquisition, stockpiling, and transfer of chemical weapons. Opened for signature on January 13, 1993, as of March 15, 1996, the CWC had 160 signatories and will enter into force 180 days following deposit of the 65th ratification with the United Nations (currently there are 49 ratifications). The CWC Preparatory Commission (PrepCom) is meeting to complete the details necessary to have the Organization for the Prohibition of Chemical Weapons (OPCW) fully operational at entry into force.

DoD has participated actively throughout the PrepCom process, providing expertise on a range of implementation issues such as inspection procedures, data management, and inspector training. Specifically, DNA is accomplishing the CWC Verification Technology Program, which focuses on the technologies required for multinational verification of the CWC. Approximately \$12.6 million has been budgeted for this program in FY 1996.

The nonproliferation regimes discussed above may not be able to prevent proliferation by a determined leadership. Experience suggests that a determined proliferant is likely to succeed. The effectiveness of denial strategy should be determined by the extent to which it frustrates and slows proliferants' efforts, and in the message denial efforts convey regarding our seriousness of purpose. This success is best measured as a function of time -- time to improve regional instabilities that affect the motivations to acquire or develop NBC weapons and their delivery systems, and time to dissuade existing and potential proliferants.

Reassurance and Dissuasion

Denial efforts put time on our side, but time is not enough. Denial must be complemented by regional security dialogue, arms control and confidence building, security assistance, and other forms of reassurance that security needs can be met without resorting to NBC proliferation, and with a vigorous public diplomacy campaign which emphasizes the political, economic, and military costs of proliferation.

Regional instability remains one motivation for proliferation. By reducing regional tensions, we can help reduce the demand for both NBC and advanced conventional weapons. The Organization on Security and Cooperation in Europe (OSCE) and the Middle East Arms Control and Regional Security (ACRS) working group are two regional arms control and confidence building fora that work to broker agreements to reduce regional tensions. The OSCE has provided the framework for the negotiation of several important European security agreements such as the 1990, 1992, and 1994 Vienna Documents and the 1990 Conventional Forces in Europe (CFE) Treaty. The OSCE Forum for Security Cooperation agreed to a Code of Conduct for political-military behavior, a Global Exchange of Military Information, and Nonproliferation Principles at the 1994 OSCE Budapest Summit. Created in 1991 as part of the Madrid Middle East peace process, ACRS is a forum for developing regional confidence building measures. ACRS is one of several multilateral working groups in the Madrid process designed to complement the bilateral peace talks. DoD has played a critical role in supporting these efforts by

providing operational and technical expertise to these negotiations.

U.S. Security Assistance programs also can help to defuse regional tensions by enabling friends and allies to acquire conventional equipment, services and training for legitimate self-defense and to support participation in multilateral security efforts, such as coalition warfare. U.S. Security Assistance programs include Foreign Military Sales, International Military Education and Training, and emergency provision of excess U.S. defense articles. These programs supplement U.S. overseas presence and peacetime engagement by improving the defense capabilities of allies and friends, while demonstrating U.S. commitment to defend common interests.

Alliances and bilateral defense arrangements create a powerful incentive for allies and friends to refrain from the acquisition of NBC weapons. Through the forward deployment of U.S. military forces, the United States provides allies with tangible demonstrations of our commitment to their security, not withstanding proliferation by other nations in their region. The forward deployment of capable combat forces and periodic demonstrations of our ability to deploy additional forces from the United States, when and as required, may be the Department of Defense's most important contribution to proliferation prevention. These tangible demonstrations of security commitments make it possible for responsible leaderships in allied and friendly nations to conclude that they can rely on U.S. security commitments to provide for their security.

Military-to-military cooperation and contacts also help reassure friends and allies while at the same time dissuading the acquisition of NBC weapons and technology. The extensive U.S. bilateral military-to-military contact program builds trust and promotes professionalism in the armed forces of our friends and allies. These contacts also reinforce basic tenets such as civilian control of the military and the honoring of international norms of behavior.

Regional arms control and confidence building, security assistance and alliance efforts, and military-to-military contacts, however, are only as good as our ability to effectively communicate our intent to proliferants and those threatened by that proliferation. U.S. counterproliferation efforts are part of this public diplomacy campaign. The preparations we undertake through the Defense Counterproliferation Initiative will provide the ability to protect our forces, allies, and future Coalition partners from the consequences of NBC weapons and their delivery systems attack. This initiative is designed to support our public diplomacy campaign by not only convincing proliferants they gain no advantage through NBC weapons and their delivery systems proliferation (at great expense), but also by helping states resist the temptation to proliferate in response to an adversary's proliferation.

Actions to Reverse Proliferation

Measures to reverse proliferation are the final component of prevention. In some instances, this is involuntary, as in Iraq under UN supervision. In other cases action is self-initiated, as appears to have been the case in South Africa and the non-Russian nuclear weapons states formerly part of the Soviet Union. Available policy instruments here include making available intelligence information concerning the status of regional proliferation (and proliferation reversal) efforts, initiatives to defuse regional tensions that might motivate proliferation, and support for inspection and verification activities. CTR in the nuclear-weapon-possessing New Independent States formerly part of the Soviet Union is particularly significant.

CONCLUSION

"Weapons of mass destruction -- nuclear, biological, and chemical -- along with their associated delivery systems, pose a major threat to our security and that of our allies and other friendly nations. Thus, a key part of our strategy is to seek to stem the proliferation of such weapons and to develop an effective capability to deal with these threats. We also need to maintain robust strategic nuclear forces and seek to implement existing strategic arms agreements."

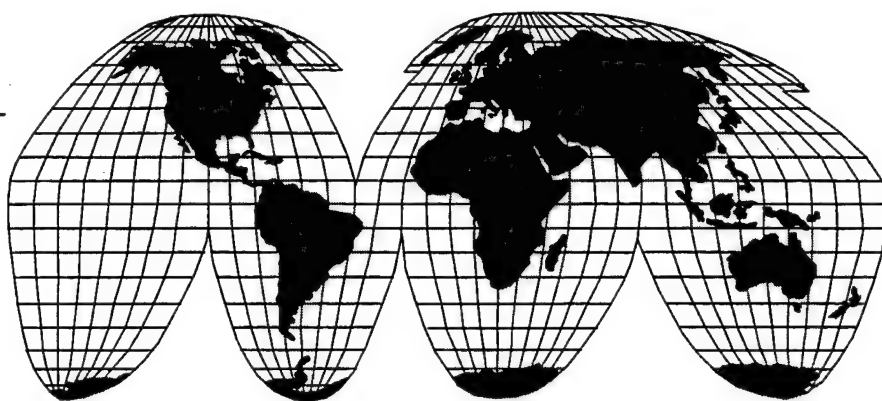
A National Security Strategy of Engagement and Enlargement,
The White House, February 1995, p. 13.

The proliferation of nuclear, chemical, and biological weapons is not a hypothetical threat. A number of states have NBC military capabilities; a larger number are capable of producing such weapons, potentially on short notice.

Prevention of proliferation is the first priority. The Department of Defense provides critical support to national and international prevention efforts. The Defense Department has unique responsibilities for the military responses needed if prevention fails: active defense, passive defense, counterforce, and response to paramilitary/covert threats.

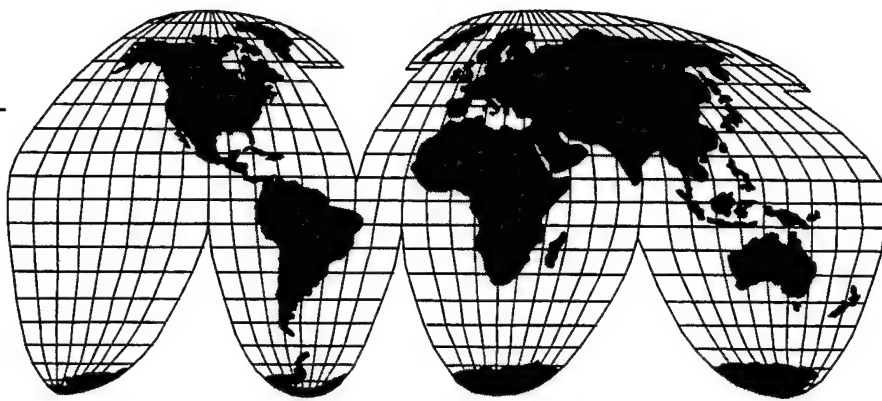
Our current appreciation of the counterproliferation threat dates from the Gulf War, in which there were a number of unpleasant surprises involving Iraq's NBC programs. Development of a coherent, effective national response has required policy initiatives, adaptation of military planning and operations, acquisition of new capabilities, new Intelligence Community programs, and international cooperation. In a brief period of time, considerable progress has been made. Much, however, remains to be done.

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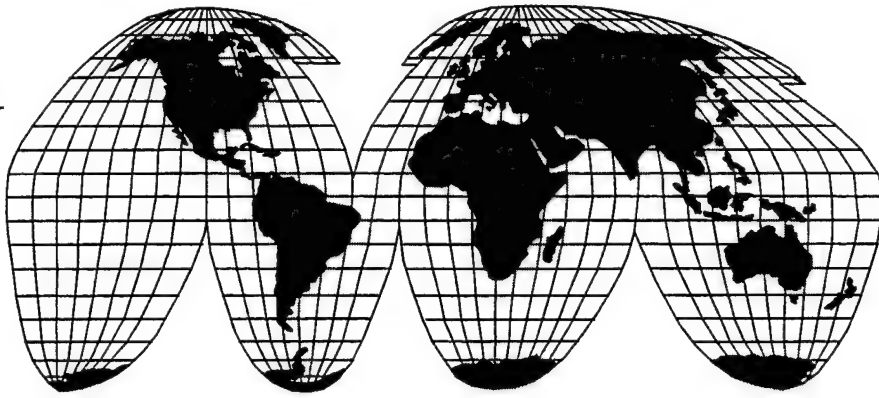


Appendix D

Panel Slides



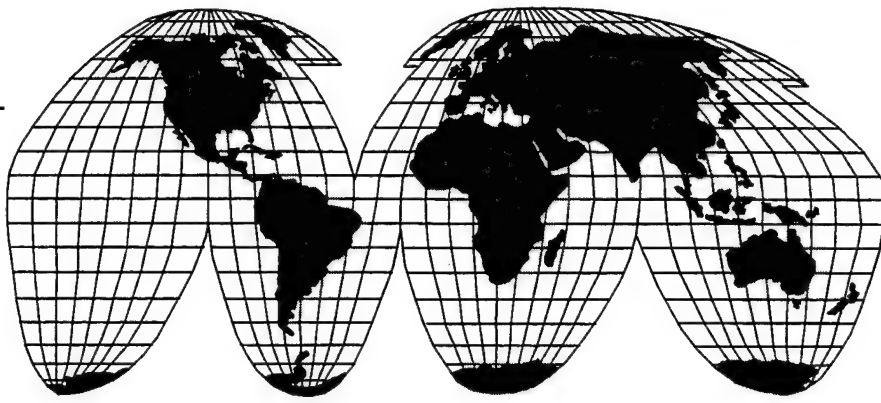
Panel I



Mr. Robert Irvine

Definitions (DoD Dir. 2060.2, 9 Jul 96)

- **Nonproliferation:** The use of the full range of political, economic, informational, and military tools to PREVENT proliferation, reverse it diplomatically, or protect U.S. interests against an opponent armed with nuclear, biological or chemical (NBC) weapons and the means to deliver them, should that prove necessary.
- **Counterproliferation:** The activities of DoD across the full range of USG efforts to COMBAT proliferation, including the application of military power to protect U.S. forces and interests; intelligence collection and analysis; and support to diplomacy, arms control and export controls.



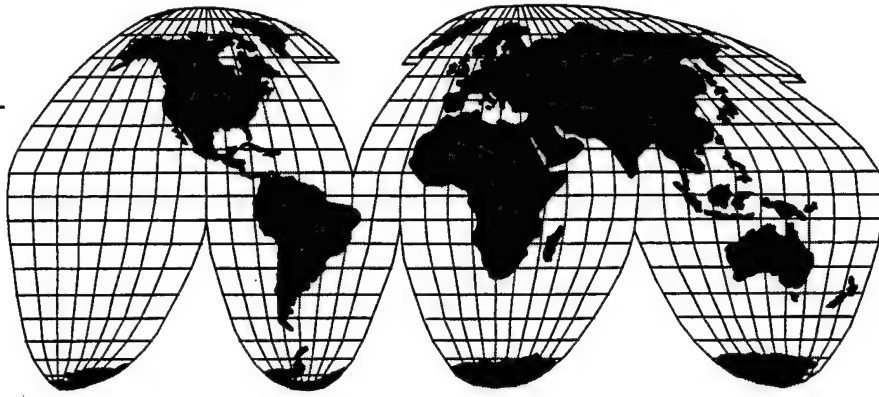
Dr. Brad Roberts

Functions of Arms Control

- #1: to reduce the number of weapon states
- #2: to restrain the military threat of residual arsenals
- #3: to focus compliance tools on potential drop-outs
- #4: to depoliticize the debate about hold-outs (they self-select)
- #5: to legitimize punitive actions (help avoid labeling US as vigilante)
- #6: to institutionalize norms, creating tools to extend their impact
- #8: to build coalitions, whether political, economic or military
- #9: to tie divergent international communities to common purposes
- #10: to help manage international transitions
- #11: to legitimize and extend technology controls

Functions of Export “Controls”

- #1: to channel trade to legitimate, peaceful activities and away from illegitimate ones.
- #2: to impose delays and additional costs on detected weapon programs
- #3: to create a level playing field for industry, by establishing an agreed set of rules applied under transparent national decisions
- #4: to render patterns of trade transparent, thereby making it easier to track trade and track down malefactors
- #5: to insulate industry from the political and economic risks of trade in highly sensitive areas
- #6: to give industry the incentives and tools to police itself
- #7: to symbolize and give meaning to the anti-NBC norm
- #8: to implement the treaty commitment not to trade in sensitive materials and technologies with non-parties.



Mr. Leonard Spector

~~Prolif. Threat and Response~~ ~~by~~ approved interagency. ~~but a Pentagon artifact.~~ Noem-Based is threat-based, eg. Dr

Seven mechanisms for addressing WMD

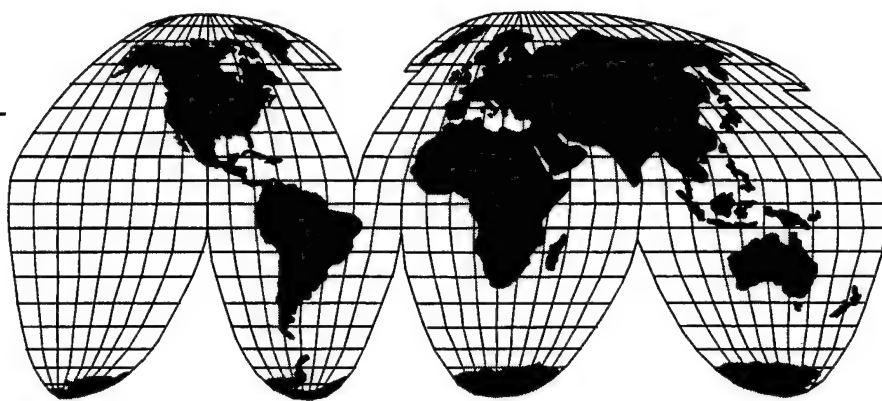
- Technology denial and export control ^{Libya}_{Iran/Nve}
- Regime building and enforcement... North Korea, Iran
- Security guarantees... NATO... Defense treaties with Japan, South Korea; special relationship with Taiwan
- Targetted diplomacy -- sanctions and incentives... Pakistan, Ukraine, North Korea
- Regional dispute settlement to address demand
- Cooperative Threat Reduction, to prevent leakage fm FSU
- Counterproliferation

The USG thinks in terms of all the potential cases and has a check list that shows how many of these cases have been resolved. Most have been resolved, using the first six tools.

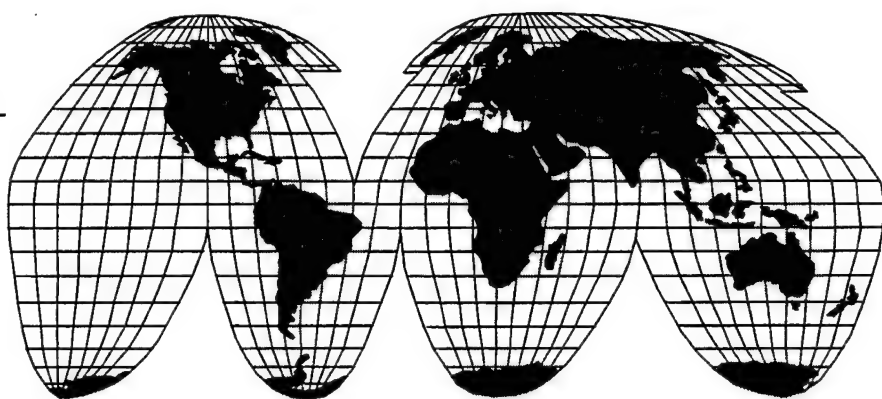
CP is focused on the handful of remaining cases, and principally for CW-BW-Missiles after the fact, not for emerging nuclear threats.

Counter-proliferation is the tail, not the dog, *politically*. \$

- 500 CB sub
- 250 A2DA



Panel II



**Gen (Ret)
James P. McCarthy**

The Soviet Nuclear Threat Reduction Act of 1991

(Section 201 22 USC 2551)

- Provided for a program limited to cooperation among the United States, the Soviet Union, its republics, and any successor entities to:
 - destroy nuclear weapons, chemical weapons, and other weapons,
 - transport, store, disable and safeguard weapons in connection with their destruction,
 - establish verifiable safeguards against the proliferation of such weapons.

Legislative Limitations

- Assistance was excluded unless the President certified that the Soviet Union or successor states wereis committed to:
 - Making a substantial investment of its resources for dismantling or destroying weapons,.
 - Forgoing any military modernization program that exceeds legitimate defense requirements and forgoing the replacement of destroyed weapons of mass destruction,.
 - Forgoing any use of fissionable and other components of destroyed nuclear weapons in new nuclear weapons,.
 - Facilitating U.S. verification of weapons destruction,.
 - Complying with all relevant arms control agreements,.
 - Observing internationally recognized human rights, including the protection of minorities..

CTR Program Objectives

- The CTR program has five main objectives which have remained about the same over the past six years. As stated in the DoD support for FY1998 funding, they are:
 - Objective 1: Assist Ukraine, Belarus and Kazakhstan to become non-nuclear states,
 - Objective 2: Assist Russia in accelerating strategic arms reductions to START levels,
 - Objective 3: Enhance the security, control, and accounting of nuclear weapons and fissile material in Russia to prevent their proliferation and encourage their reduction,
 - Objective 4: Initiate and accelerate Russia's chemical weapons destruction program,
 - Objective 5: Encourage the demilitarization of Russia, Ukraine, Belarus and Kazakhstan.

Program Accomplishments.

- Objective 1 has been achieved: three nuclear states, Ukraine, Belarus and Kazakhstan are now non-nuclear states because they have transferred to Russia all of their 3300 strategic nuclear weapons.
 - In Russia, the CTR program has helped remove 1400 strategic warheads from deployment sites. In addition, the CTR assistance has helped eliminate 64 SLBM launchers, 54 ICBM silo launchers, 61 SS-18 missiles, and 20 strategic bombers.
 - In Ukraine, CTR assisted in the early deactivation of all 46 SS-24 ICBMs and all 130 SS-19 ICBMs (1240 nuclear warheads).
 - In Belarus, the count is 81 fixed launch sites for SS-25 mobile missiles and in Kazakhstan, 148 SS-18 launchers.
- Defense Conversion projects are converting approximately 17 factories of weapons of mass destruction to production of civilian goods. /
- Science and technology Centers, funded in part by the CTR program, have provided employment opportunities in peaceful civilian research for over 17,000 former WMD scientists and engineers.

Russian Complaints

- Its scale is insufficient and it is being implemented too slowly,
- In almost all cases, U.S. rather than Russian organizations are the primary contractors,
- CTR deliveries reduce the market for the Russian military industry,
- CTR assistance is aimed at under mining the high-tech capabilities of the Russian industry,
- CTR assistance often addresses secondary problems,
- CTR assistance is often conditioned on overly intrusive transparency measures,
- CTR is a tool to interfere in Russian domestic policy; and
- the U.S. is attempting to link aid to Russia's position on unrelated political-military issues.

Critic's Comments on CTR

- Russia fails to meet all six conditions to receive Nunn-Lugar funding,
- U.S. is aiding Russia's high-tech military industry,
- U.S. is helping to modernize the Russian armed forces,
- Russia is using Nunn-Lugar to develop new weapons,
- U.S. aid is subsidizing Russian germ warfare production,
- DoD funds should be used to fund the B-2 with Nunn-Lugar being funded through the foreign assistance account.

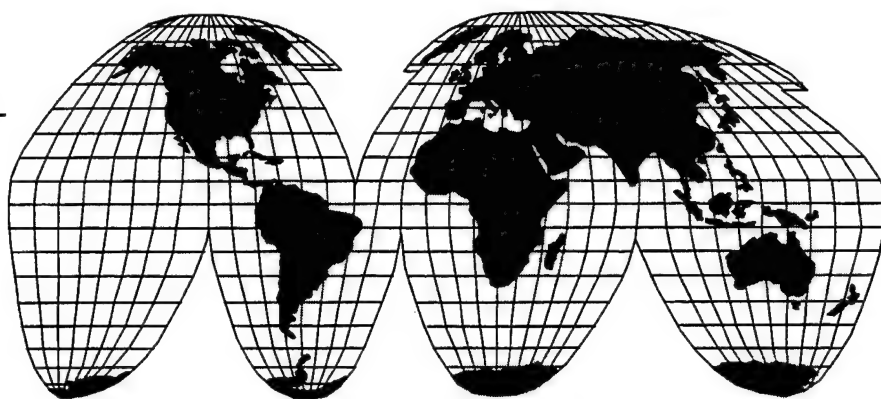
The North Korean Agreement

The U.S. and North Korea reaffirmed 1993 statement to achieve peace and security on a nuclear free Korean Peninsula and undertook four specific actions to resolve the nuclear issue. .

- I. Both sides will cooperate to replace the DPRK's graphite-moderated reactors and related facilities with light-water reactor (LWR) power plants.
 - In accordance with the October 20, 1994 letters of assurance from the U.S. President the U.S. will undertake to make arrangements for the provision of a LWR project with a total generating capacity of 2000 MW9e to the DPRK by a target date of 2003.
 - In accordance with the October 20, 1994 letter of assurance from the U.S. President, the U.S. representing a consortium, will make arrangements to offset the energy foregone due to the freeze of the DPRKs graphite-moderated reactors and related facilities, pending completion of the first LWR unit.
 - Upon receipt of U.S. assurances for the provisions of LWR's and for arrangements for interim energy alternatives, the DPRK will freeze its graphite-moderated reactors and related facilities and will eventually dismantle these reactors and related facilities.

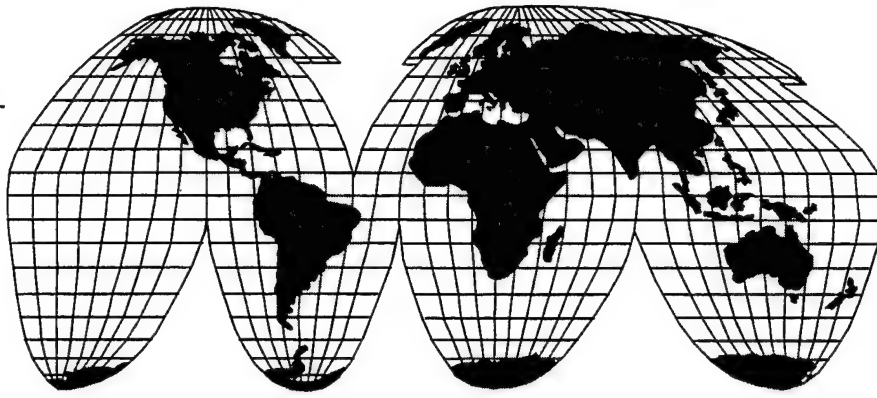
The North Korean Agreement

- II. The two sides will move toward full normalization of political and economic relations.
- III. Both sides will work together for peace and security on a nuclear free Korean Peninsula.
- III. Both sides will work together to strengthen the international nuclear non-proliferation regime.



Dr. Kathleen Bailey

	Costs (in \$)	Time	Expertise	Number of People	Facility Size	Material and Equipment Availability	Value of S&A
N	>100 m	years	high ed., diverse	>1,000	large	some controlled	R/H E/M
B	< 5,000	days, weeks	some ed., biology	one or few	very small	available	low
C	≥15,000	weeks, months	high ed., chemistry, chem. eng.	few, several	small	available	low-med.
CM	>25,000	?	—	one, few	—	available	none
BM	>100m	years	high ed., engineers, diverse	many	large	available	low



Dr. Matthew McKinzie

Why Do States Voluntarily Forego Weapons of Mass Destruction (WMD) Capability?

Matthew McKinzie
Natural Resources Defense Council

State Security: Effectiveness of Collective Security Arrangements

- Treaty Regimes (NPT, CWC, BWC, CTBT)
- Alliances (NATO)
- Bilateral Treaties (ABM, START)

- ◆ Accurate and Timely Verification
- ◆ "Bridging" Institutions

State Identity: Relationship of the State to the International System

- Transition to Democracy
- WMD Acquisition → An Act of Extreme Aggression
- WMD Exist Only to Deter WMD

Expense and Difficulty: WMD Deterrence By Other Means

(Arms Control) Significant, Future Additions to U.S. Non-Proliferation Policy

Comprehensive Test Ban Treaty

- Restrain Vertical and Horizontal Proliferation
- Provide the International Community with Verification Data
- ~~Strengthen Existing Collective Security Arrangements~~

START II (and III)

- Make Reductions Below START I Possible
- Eliminate Destabilizing Strategic Systems

The Department of Energy Stockpile Stewardship Program:
Compromising
U.S. Nuclear Weapons and Non-Proliferation Policies

The Current Stockpile Stewardship Does Not Focus on DOD "Customer" Requirements for Nuclear Deterrent Capabilities:

- Stewardship Does Not Stress Remanufacture of Proven Weapon Types in the Enduring Arsenal
- Stewardship Does Not Emphasize Primary Performance; Particular Boosting

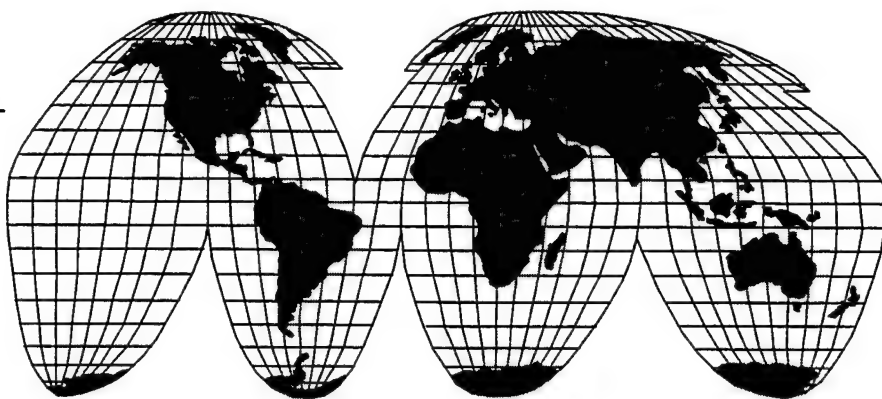
The Current Stockpile Stewardship Ultimately Seeks to De-couple New Design Certification (or Significant Design Modification) from Underground Testing

- Not in the Interest of the "User" Community: A Compromise in Nuclear Weapon Safety and Reliability
- Undermines the Significant Security Benefits of Further START Reductions and the Nuclear Non-Proliferation Treaty/Comprehensive Test Ban Treaty Regimes; START II and CTBT Entry-Into-Force in Doubt

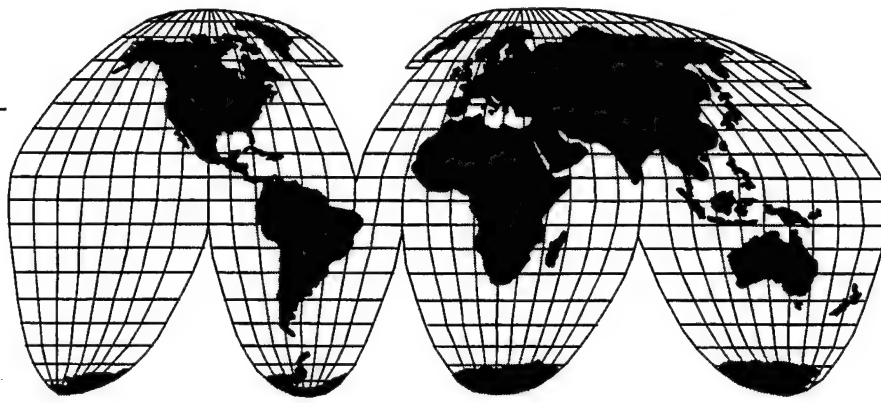
A Growing Gap Exists Between the Means Necessary for Maintaining the U.S. Nuclear Deterrent:

and the Current Stockpile Stewardship Programmatic Goals:

This Stewardship Will Ultimately Complicate U.S. Nuclear Weapons and Non-Proliferation Policies



Panel III



Ambassador Robert Joseph

Basis For Judgments: Center Work on Counterproliferation

*Deterrence in an NBC Regional
Environment*

Adversary NBC Employment Concepts

- *NBC Effects*
- *Response to NBC Use*
- *Impact of NBC on Service Doctrine*
- *Nuclear Smuggling*
- *Consequence Management*

Key Political And Operational Questions

How Can One Deter NBC Use?

How Can One Protect Forces (And Operate) If NBC Weapons Are Used?

■ *How Can One Prevent Follow-on Use?*

Key Judgments

- **Deterrence Is Different.** It is becoming a Two-Way Street As NBC Is Used To Deter the United States In Conflicts With Asymmetrical Interests, Involving Asymmetrical Strategies. Traditional Deterrence Based Primarily On Punishment/Retaliation Has Become Problematic.
- **Growing Prospect Of NBC Use, Including Early In Conflict.** Adversary Use Concepts Are Poorly Understood And Not Integrated Into Planning And Training. Operational Implications Of CW And BW Use Also Not Well Understood. Doctrine Fragmented, Not Suited To New Environment, And Training Not Realistic.
- **Increasing Utility Of Unconventional Delivery By States And Terrorists** Will Require a Fundamental Reassessment Of How the United States Defends Against The NBC Threat Abroad And At Home.
- **Biological Weapons Could Become The Key "Weapon of Choice."**
- **NBC Poses Unique Problems For Undermining Coalitions.** This Could Profoundly Affect How The United States Conducts War In The Future.

First Cut: The "Who" And The "Why."

THE WHO:

*Global Adversary
Emerging Global
Adversary*

- *Regional Adversary*
- *Rogue States*
- *Non-state Actors*

THE WHY:

- *Defeat the U.S./allies*
- *Defeat U.S. forces in region*
- *Prevent defeat by the U.S./coalition*
- *Disrupt U.S./coalition forces*
- *Deter U.S. intervention*
- *Punish, take-revenge, intimidate the U.S.*

Second Cut: The "Who" and the "When."

WHEN WHO	PEACETIME	CRISIS	WAR
Global Adversary	<ul style="list-style-type: none"> • Global Influence • Deter U.S. 	<ul style="list-style-type: none"> • Deter U.S./Coalition Intervention 	<ul style="list-style-type: none"> • Deter Escalation • Defeat U.S. • Prevent Defeat
Emerging Global Adversary	<ul style="list-style-type: none"> • Regional Hegemony 	<ul style="list-style-type: none"> • Deter U.S./Coalition Intervention 	<ul style="list-style-type: none"> • Raise Costs • Prevent Defeat • Leverage Outcome
Regional Adversary	<ul style="list-style-type: none"> • Regional Hegemony 	<ul style="list-style-type: none"> • Deter U.S./Coalition Intervention 	<ul style="list-style-type: none"> • Raise Costs • Leverage Outcome
Rogue State	<ul style="list-style-type: none"> • Intimidate • Provoke 	<ul style="list-style-type: none"> • Deter Intervention • Threaten Use to Intimidate 	<ul style="list-style-type: none"> • Raise Costs • Intimidate and Punish
Non-State Adversary	<ul style="list-style-type: none"> • Covert 	<ul style="list-style-type: none"> • Threaten Use to Intimidate 	<ul style="list-style-type: none"> • Intimidate • Punish

Third Cut: The "What" And The "Where."

<i>The What</i>	<i>The Where</i>
Threaten Use	■ Combat Units
Demonstrating Capability	■ Military Command and Control
■ Non-Lethal Employment	■ Military Logistics
■ Use Against Tactical	■ Civil Infrastructure
■ Use Against Theater	■ Leadership and political
■ Use Against Homeland	■ Civilian population

*Take it Together, The "What" and the
"Where" Begin To Inform Us About The "How"*

Illustrative NBC Employment Concepts: Regional Adversary

WHERE	WHAT	Combat Units	Military Command & Control	Military Logistics	Civilian Infrastructure	Political & Leadership	Civilian Population
	Threaten Use						
	Demonstration						
	Non-Lethal Employment						
	Tactical Value Employment						
	Operational Value Employment						
	Strategic Value Employment						

Illustrative Adversary Use: Early Use in Conflict

Actor	Regional Adversary
Time	War
Situation	<ul style="list-style-type: none"> • Attack by regional adversary takes U.S., allies by surprise • Early in conflict; ground forces in contact; U.S./allied forces in region on the defensive • Air war still in question; air campaign prosecuted largely with U.S.-based aircraft • Massive U.S.-coalition build-up hampered by limited points of entry/operating bases • Raise stakes for the coalition before it is fully formed/ready to engage • Weaken/disrupt coalition • Secure near-term objectives • Delay/disrupt U.S.-coalition deployments • Destroy/disrupt U.S.-coalition ability to maintain essential logistics/C3 • Missile-delivered BW/CW to isolate forces, create weak points, divide coalition partners • SOF, missile delivered BW/CW on U.S. ports of debarkation; coalition ports of embarkation • Missile delivered BW/CW (sustained, if possible) on tactical air bases
Adversary Objectives	
Targets/Delivery Systems	
Observations	<ul style="list-style-type: none"> • Attack configured (extent, lethality, etc.) to minimize threat of large-scale retaliation • Use of BW/CW alters, perhaps radically, the U.S. risk/reward calculations • Asymmetry of interests works against U.S.; U.S. public outrage over BW/CW use in region may not counterbalance the adverse risk calculations

Illustrative Adversary Use: Weapons of Last Resort

Actor	• Regional Adversary
Time	• War
Situation	<ul style="list-style-type: none"> • Regional adversary misjudged its ability to secure quick victory and U.S./coalition resolve • Sustained combat ongoing; loses mounting; coalition on offensive winning in all combat areas • Adversary's population withdrawing support • Adversary's vital resources/leadership perceived at risk • Deliver shocking blow to coalition
Adversary	• Demonstrate ability/will to inflict potentially massive damage anywhere in region
Objectives	<ul style="list-style-type: none"> • Avoid defeat • Avoid major retaliation • Preserve leadership/state
Targets/ Delivery Systems	<ul style="list-style-type: none"> • SOF or missile delivered BW/CW on logistics centers, ports of embarkation and debarkation; C3 • Missile delivered BW/CW on key population centers • Threaten missile-delivered nuclear devices and BW (targets not specified)
Observations	<ul style="list-style-type: none"> • Nuclear threats (and BW against populations) designed to convince U.S.-coalition publics of the risk of even higher military and civilian casualties if war continues • Regime willing to risk retaliation, but judges likelihood of nuclear retaliation low, given its own ability to punish the U.S. -and its partners -- directly -- for such actions

Illustrative Adversary Use: Covert Attack v. Forward Deployed Forces

Actor	<ul style="list-style-type: none"> Non-State Actor 	<ul style="list-style-type: none"> Rogue State
Time	<ul style="list-style-type: none"> Peacetime 	<ul style="list-style-type: none"> Crisis, precipitated by rogue state
Situation	<ul style="list-style-type: none"> Rapprochement among regional states and U.S., leading to marginalization of Non-state actor Anti-U.S. sentiment among disaffected religious groups in regional states 	<ul style="list-style-type: none"> Neighboring states feel threatened Coalition in process of being formed U.S., some coalition members beginning to deploy forces
Adversary Objectives	<ul style="list-style-type: none"> Increase political power Reduce/eliminate U.S. influence/presence Demonstrate impotence of state to deter terrorism Persuade U.S.-coalition that resistance will unleash costly yet unpredictable actions Revenge; punish U.S.-coalition members 	<ul style="list-style-type: none"> Fractionate resistance Deter intervention Disrupt coalition building Secure tactical advantage over neighbors Demonstrate impotence of coalition to deter aggression or terrorism Persuade U.S.-coalition that resistance will unleash costly yet unpredictable actions SOF-delivered BW/CW on neighbor, designed to obscure origin and create dissent among potential coalition partners
Targets/Delivery Systems	<ul style="list-style-type: none"> SOF-delivered BW/CW on U.S. garrisons, air bases to appear as "accidents" by U.S. NBC Terrorist attack on civilians, at home and abroad 	
Observation	<ul style="list-style-type: none"> Attacks will be deliberately provocative Traditional deterrence will be inoperative Non-attributable nature of the attacks will complicate response 	<ul style="list-style-type: none"> Sufficiently lethal to provoke adverse public reaction & generate unwillingness to proceed, given inability to identify source and preclude repetition

Illustrative Adversary Use: Covert BW Attack On the United States

Actor	• Non-State Actor (perhaps State sponsored)
Time	• Peacetime
Situation	• Appearance of normalcy • U.S. pursuing normal foreign policy objectives.
Adversary Objectives Targets/ Delivery Systems	• Punishment/revenge for perceived U.S. transgressions • SOF-delivered BW (or CW or radiological device) against population center or leadership
Observations	• Such events highly unpredictable • Humint and detection capabilities essential • Emergency response capabilities paramount

Initial Problem: How Do Operators Think About NBC?

As part of AF Workshops on Operating in an NBC Environment, we wanted to know how planners, operators, and others thought about how NBC affected what they did.

- How did they take NBC into account?*
- How did they think NBC might be used?*
- What affect might adversary use have on operating principles? On doctrine? On training?*

Illustrative RED Planning Tasks

Given "limited but effective" nuclear, biological and chemical capabilities, Red planning teams are asked to plan ways to use (or threaten to use) these assets to, for example:

- Split the Blue coalition*
- Counter Blue air superiority and degrade Blue sortie generation rates*
- Degrade Blue logistics, resupply*

Some Common RED Planning Themes

- *No single solution set. Plans for BW/CW use range from high to low end*
- *Biological weapons are always considered and nearly always adopted*
- *Early use, especially of non-lethal bio frequently discussed and adopted*
- *All forms of delivery considered; missiles and non-traditional delivery means prominent*
- *Blue seen to be vulnerable to bio use/threats on its homeland; occasionally bio adopted in covert plan*

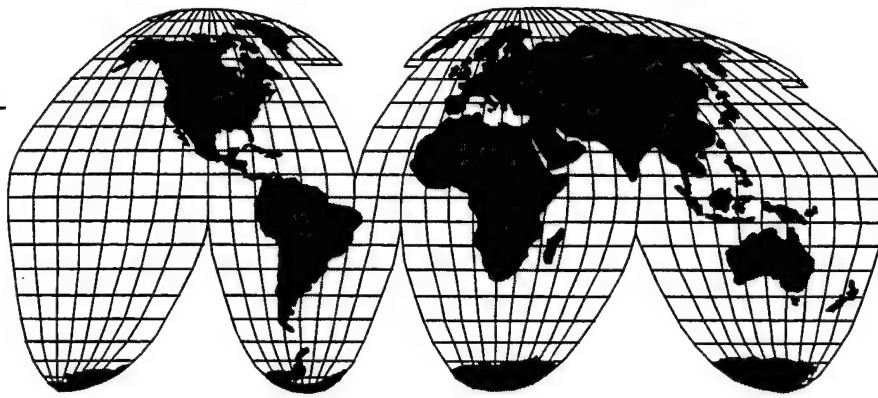
Game "Sociology"

RED planning cells generally self-starting

- *Planning is energetic, comprehensive, and creative*
- *Concept that CW/BW have utility is readily accepted*

BLUE planners (same people) are generally less enthusiastic

- *Often downplay BW/CW effects*
- *More likely to rely on "crutch" of deterrence*
- *"Too hard to do"*



Dr. Robert Kadlec

PROLIFERATION: THREAT & RESPONSE

Passive Defense: Overview

46

- Components of Passive Defense
- Historical Perspective
- Current USG CP Policies, plans & Programs
- Current Challenges
- Policy Prescriptions

PASSIVE DEFENSE

Three Broadly Defined Areas

- Contamination Avoidance
 - reconnaissance
 - detection
 - warning
- Force Protection
 - individual protection
 - collective protection
 - medical support
- Decontamination

PASSIVE DEFENSE

Historical Perspective

- **Evolution of Passive Defense**
- **World War I**
- **World War II**
- **Present**

HISTORICAL PERSPECTIVE

Evolution of Passive Defense

- Coincided with development of offensive capabilities
 - CW
 - BW
 - Nuclear
- Element based on exploitation of enemy capabilities
 - Intelligence
 - Battle field exploitation
- Prominent role played by OGA
 - Congress
 - Scientific/Commercial communities
 - Foreign entities
- Occurrences of unpleasant surprises

HISTORICAL PERSPECTIVE

World War I

- 1915 German use of Chlorine Gas Ypres, France
- Use of 28 different gases & 16 mixtures
- Origins of U.S. program
 - Early 1917 before U.S. entry
 - Department of Interior, Bureau of Mines
 - Establishment of Chemical Warfare Service
- U.S. unprepared for CW
 - France & UK donate equipment
- Post-War downsizing
 - 97% cut of the CWS

HISTORICAL PERSPECTIVE

World War II

- Prior to U.S. entry 1942 Congress appropriated \$60 m
- Establishment of liaison relationship with UK & CN
 - Joint development
 - Ensure Compatibility
 - Focused special intelligence
 - Enemy equipment exploitation
- Unpleasant Surprises
- Development of BW & Nuclear capabilities

CURRENT DoD POLICY, PLANS & PROGRAMS

Recent Events & Influences

- **Impact of Persian Gulf War**
 - UNSCOM
 - Persian Gulf Illness
- **Former Soviet Union CW & BW Programs**
- **Proliferation problem in general**
- **Role of Congress**
- **Role of OGA**

GENESIS OF THE PROLIFERATION & RESPONSE Chronology

- 1993: Presidential Directive
- 1994: Formal SECDEF Policy Guidance
- CJCS CP Missions & Functions
 - Theater CinC's Role
 - Joint Warfighting Capabilities Assessm
- CP Support Program
 - oversees R&D, acquisition & shortfalls
- Multilateral Initiatives
 - NATO

FORMAL STRATEGY STATEMENTS

US Government Reports 1996

- White House: National Strategy
" .. to minimize the impact of proliferation of WMD on our interests, we will need the capability not only to deter their use....This will require improved defense & offensive capabilities..."
- DoD's Proliferation Threat & Response
"...core objectives in proliferation protection policy is to convince potential & actual proliferants that NBC weapons will be of no value...US and coalition partners will have the capability to deny or limit the political & military utility..."

DoD CP PLANS & PROGRAMS

Reaching Its Goals

- **GAO March 1996 Report:**
 - U.S. forces facing same problems identified during Gulf War
 - DoD is improving readiness
 - However, equipment, training & medical shortcomings persist and are likely to result in needless casualties & degradation of U.S. war fighting capability.
- **Specific areas identified**
 - R&D progress slow
 - Army & Marines inadequately trained
 - Little CW/BW training in Joint Exercises
 - Vaccine stocks & plans remain inadequate
 - Overall 10 areas identified

Biological weapons effects: what we know

TYPES LEVELS	'Real world' data	Exercise data	Experimental data	Studies models, simulations
People				
Small units				
Division and above				
'Systems' (ports, airfields, etc.)				
Civilian populations				

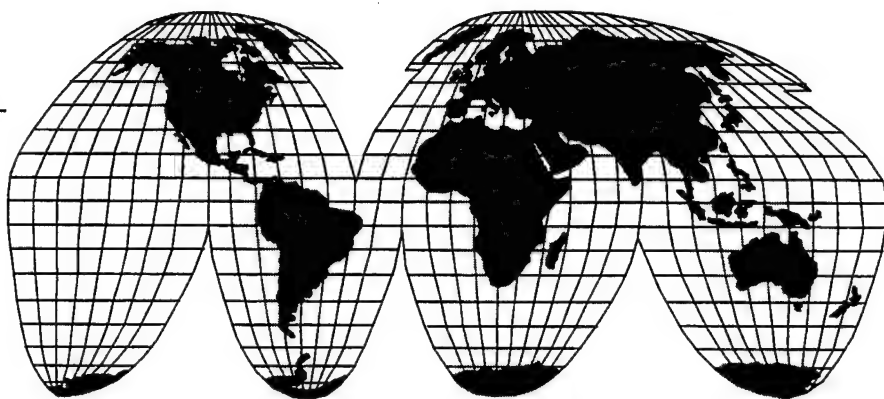
Chemical weapons effects: what we know

TYPES LEVELS	Real world' data	Exercise data	Experimental data	Studies models, simulations
People				
Small units				
Division and above				
'Systems' (ports, airfields, etc.)				
Civilian populations				

CHALLENGES AHEAD

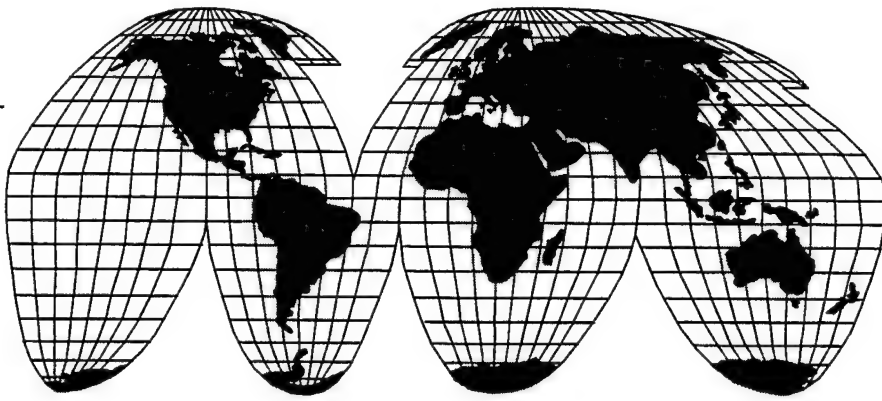
Possible Policy Prescriptions

- Classification/Security issues
 - Existing security guidance
 - Current & Future obligations
- BWC
- Overall approach to Passive Defense
 - a priori knowledge of the threat
 - validating threats
- Fund of Knowledge Issues
 - R&D infrastructure
 - Professional Military Education

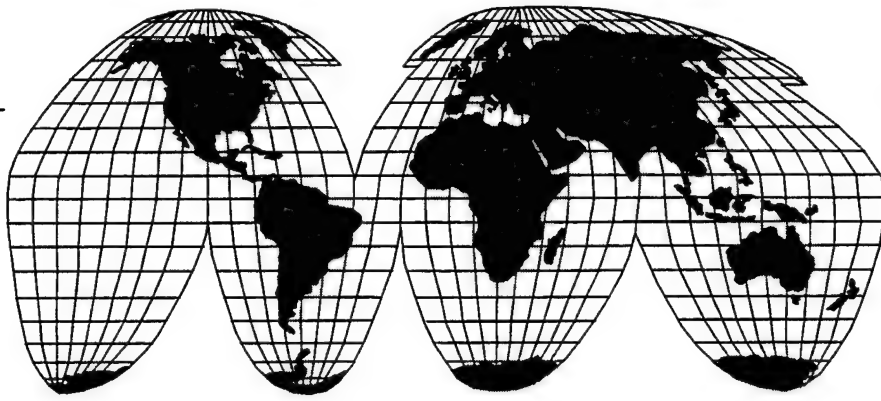


Dr. Roger Molander

DEATH	DEATH RETURN	US VISED	USE?
7	MAYBE	YES	DEATH N AVOID COM. DEATH
8	YES	TABOO	TABOO
9	YES	TABOO	TABOO



Panel IV



Gen (Ret)
Wayne Downing

COUNTERING
PARAMILITARY, COVERT,
AND TERRORIST THREATS
APPLYING THE LESSONS OF
KHOBAR TOWERS

TERRORISTS, COVERT AND P/M THREATS

- Now a stand - alone threat
 - Transnational
 - Deniable
 - An asymmetric option
 - Legal Aspects
 - Crime vs An Act of War??
 - Devastating Psychological Impact
-

TERRORISTS, COVERT AND P/M THREATS

- Lethality of the Agents
 - 2.4 Grams of Botulinum =
 - 120 kg VX = 12 Tons Sarin = 36 Tons Mustard
- Variety of Agents
 - Chemicals--vesicants, nerve, blood, industrial
 - Biological--viruses, bacteria, toxins
- New Agents -- Mid-Spectrum Agents
 - Agents of Biological Origin (ABOS)
 - Bio Regulators
 - Synthetic C/B

TERRORISTS, COVERT AND P/M THREATS

- Interagency Olympics
 - Sub Optimization
 - Bureaucratic Taxes
 - 20 %
 - 50%
 - 75%
 - 90%????
-

RESPONSE

- USG/DOD REACTION MUST BE PART OF AN INTEGRATED EFFORT
- CONPLAN 0400 (like 0300) HAS FOCUSED ATTENTION
- ATTENTION MUST BE DIRECTED AT CONUS AND ABROAD
- THE HOMELAND IS NOW A TARGET!

• Dilemma: *Consequence Management Issues* ^{my 67} needed at home and abroad. APOD/SPOD; APOE/SPOE

LESSONS LEARNED

- *WHAT LESSONS CAN WE GLEAN FROM
KHOBAR TOWERS?*

1. SITUATIONAL AWARENESS

- AFTER OPM/SANG IN NOV 95,
KHOBAR JUDGED TO BE NEXT
 - SAUDI DISSIDENT GROUPS
 - THE HAJJ, Spring 96
 - EXECUTION OF THE 4 SUSPECTED
RIYADH BOMBERS, MAY 31
 - 10X R&S INCIDENTS

1. SITUATIONAL AWARENESS cont.

- WING INTELL STRUCTURE
- SECURITY SQUADRON STRUCTURE
- RELATIONSHIPS WITH LOCAL
OFFICIALS
 - THE PECULIARITIES OF SAUDI SOCIETY
 - US ROTATION POLICIES
- COUNTRY TEAM; DOS/DOD
DIFFERENCES

2. HUMAN INTELLIGENCE

- ALL THE ‘INTS’ ARE IMPORTANT
BUT HUMINT IS KEY TO WARNING

FOR:

- PREEMPTION
 - PREPARATION
 - RETALIATION/PROSECUTION
- US CAPABILITY ON THE DECLINE

3. POSTURE AGAINST MOST LIKELY THREATS

- ALL FOCUS WAS ON PENETRATING BOMB (S) (ERS)
- MOST LIKELY THREAT WAS STAND-OFF; THERE WERE OTHERS
- THE NORTHERN PARKING LOT
 - NOV 95 VULNERABILITY ASSESSMENT
 - APRIL OSI ASSESSMENT
 - MAY OSI VISIT

3. POSTURE AGAINST MOST LIKELY THREATS cont

- NBC VASTLY EXPANDS THE
PROBLEM
 - NEW AGENTS
 - DETECTION
 - IDENTIFICATION
 - NEUTRALIZATION
 - TRANSPORT
 - DISPOSITION

4. ACTIVE AND PASSIVE MEASURES

- GOAL IS TO BE SO “HARD” THE
ATTACKER SEEKS EASIER PREY
- SPECIFICS
 - EVACUATING BUILDINGS 131 AND 133
 - BLAST MITIGATION
 - BLAST DEFLECTION
 - ALARM SYSTEM

4. ACTIVE AND PASSIVE MEASURES cont.

- TRAINING
- DRILLS
- PROTECTIVE CLOTHING
- RAF EXAMPLE

5. USE TECHNOLOGY

- TO ENHANCE PERFORMANCE AND SURVIVABILITY
- COTS/NDI
- BRIT/ISRAELI MODELS AND EXPERIENCE
- NBC DETECTION, PROTECTION, NEUTRALIZATION, TRANSPORT, DISPOSITION

6. TAILORED TRAINING AND ORIENTATION

- AREA ASSESSMENTS, HIGH THREATS
- INDIVIDUALS, FAMILIES, UNITS,
CONTRACTORS
- CIVILIAN POPULACE
- NUNN/LUGAR/DOMENICI
 - FIRST RESPONDERS
- CONSEQUENCE MANAGEMENT

7. CHAIN OF COMMAND ENGAGED

- CHANGING SITUATION ON GULF
- MISSION CREEP
- COMMAND RELATIONSHIPS
 - TACON VS OPCON
- POLICIES AND OVERSIGHT
- SAUDI RESPONSIBILITIES
- NATURE OF JTF/SWA

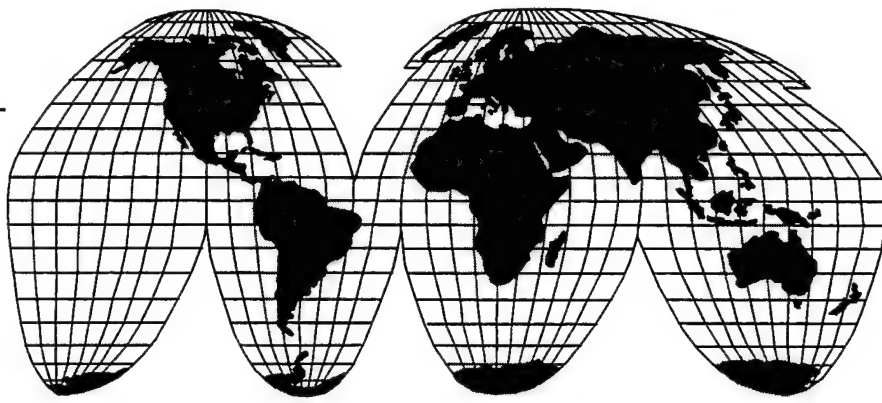
7. CHAIN OF COMMAND

ENGAGED cont.

- SECURITY POLICE
 - 10% TURNOVER WEEKLY
 - NO TRAINING
 - POOLED WEAPONS
 - NO ROE--PEACETIME RULES OF DEADLY FORCE APPLIED AS INDIVIDUALS
- ROTATION POLICY

8. FORCE PROTECTION: A COMMAND RESPONSIBILITY

- NOT SOMETHING SEPARATE
- LIKE SAFETY, AN INTEGRAL PART
OF UNIT OPERATIONS
- BALANCED WITH ALL OTHER
FACTORS
- DO NOT FORGET MISSION
ACCOMPLISHMENT



Lt Col Jeff Larsen



“We attach the utmost importance to preventing the proliferation of WMD, and, where this has occurred, to reversing it through diplomatic means...[Yet] as a defensive alliance, NATO must be prepared...to counter this risk and thereby protect NATO’s populations, territory, and forces.”

-- DPC/NPG Communique, June 1995

Proliferation Importance to NATO

Specific concerns:

- Revanchist Russia
 - Middle Eastern states
 - North African states
 - Facing adversary armed with WMD
 - Regional conflict involving WMD
 - Deployed troops performing MOOTW or in regional conflict under threat of WMD
- Prolif of WMD undermines development of a stable security system in Europe

Possible NATO Nonproliferation Roles

- Defusing proliferation incentives
 - Traditional nonproliferation efforts, plus political measures, including NACC, PfP
- Enforcing international sanctions against proliferators
 - UN, OSCE operations, especially within Europe
- Offensive military action against proliferators
 - Preemptive defense, out-of-area
- Developing ballistic missile defenses

NATO Nonproliferation Committees

- Created 1994 with 2-year charter
 - Extended indefinitely at June 1996 NAC
- Joint Committee on Proliferation
 - Chair: NATO Deputy Secretary General
- Senior Political-Military Group on Proliferation (SGP)
 - Political discussions, assessments, studies
 - Traditional nonproliferation efforts in a new forum
 - Discussions with NACC, PfP, 16+1
 - For Min/State members
 - Chair: NATO Asst. Secy for Political Affairs

Nonproliferation Committees (cont'd.)

Senior Defense Group on Proliferation (DGP)

Co-Chairs: US Asst SECDEF for ISP,
European equivalent (rotating: France, UK, Italy)
Military dimension; MOD/DOD members

phases of study:

- . Threats & risks to Alliance
- . Implications for defense posture
- . Current capabilities/Shortfalls/Remedies

DGP Phase Studies

Phase I: Threats & risks to Alliance

- May 1995
- Focus on key states; difficult to achieve consensus
- 1st such risk assessment ever conducted by NATO

Phase II: Implications for defense posture

- Nov 1995, 2 parts:
 - implications for NATO defense: most likely scenario is threat vs. deployed troops, in ports, to degrade conventional superiority and attack public resolve
 - needed CP force capabilities: active and passive defenses, intel, counterforce capabs., battle mngmt

DGP Phase II Core Capabilities

Emphasize NATO's 3-tiered "core capabilities" and incorporate in force planning and training

Tier I, needed ("core") capabilities

- strategic and operational intelligence
- automated, deployable C³
- wide area ground surveillance
- biological & chemical agent detection, identification, and warning
- extended air defenses, including TBM for deployed force
- individual NBC protective equipment for deployed force

DGP Phase Studies (cont'd.)

Phase III: Existing capabilities, shortfalls, and suggested remedies

- June 1996, 39 recommendations (Action Plans)
- Develop base of capabilities for multiple taskings, expand as necessary in future
- Call for enhanced multinational training & exercises
- Accelerated force planning process to address capability shortfalls

– 1st time ever done; also 1st time included France

“Phase IV”: Implementation

- Difficult to achieve; no consensus on threat or need
- No additional funding

Comparing NATO and US Counterproliferation Efforts

Both have 2 elements: prevention and protection
intelligence sharing

US funding & efforts will be used by NATO

Both stress TMD

Very similar lists of shortfalls, priorities, remedies
Key difference: US counterforce not same as
NATO response capabilities

NATO simply polling nations as to existing capabilities,
not pursuing new ones

Future Questions for NATO

Funding issues--how to pay for this?

Long-range planning cycles--include nonproliferation considerations in Force Goals and new systems acquisition

Which NATO organizations should oversee implementation?

Intelligence sharing a must

Political will a must, but difficult to achieve and keep in operation involving WMD

Conclusion

NATO is seen as the only international body with the competence to counter the consequences of proliferation... the political mileage for NATO will come from its defense-related contribution in a situation where traditional nonproliferation mechanisms have failed."

--Michael Ruehle